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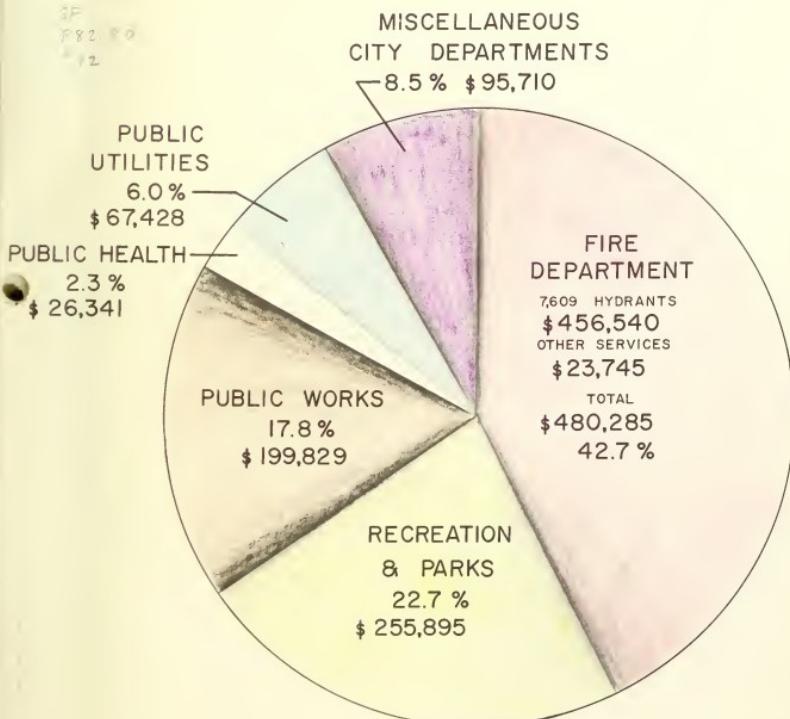
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PUBLIC UTILITIES COMMISSION  
SAN FRANCISCO WATER DEPARTMENT  
WATER FURNISHED FREE TO OTHER  
CITY DEPARTMENTS  
\$1,125,000

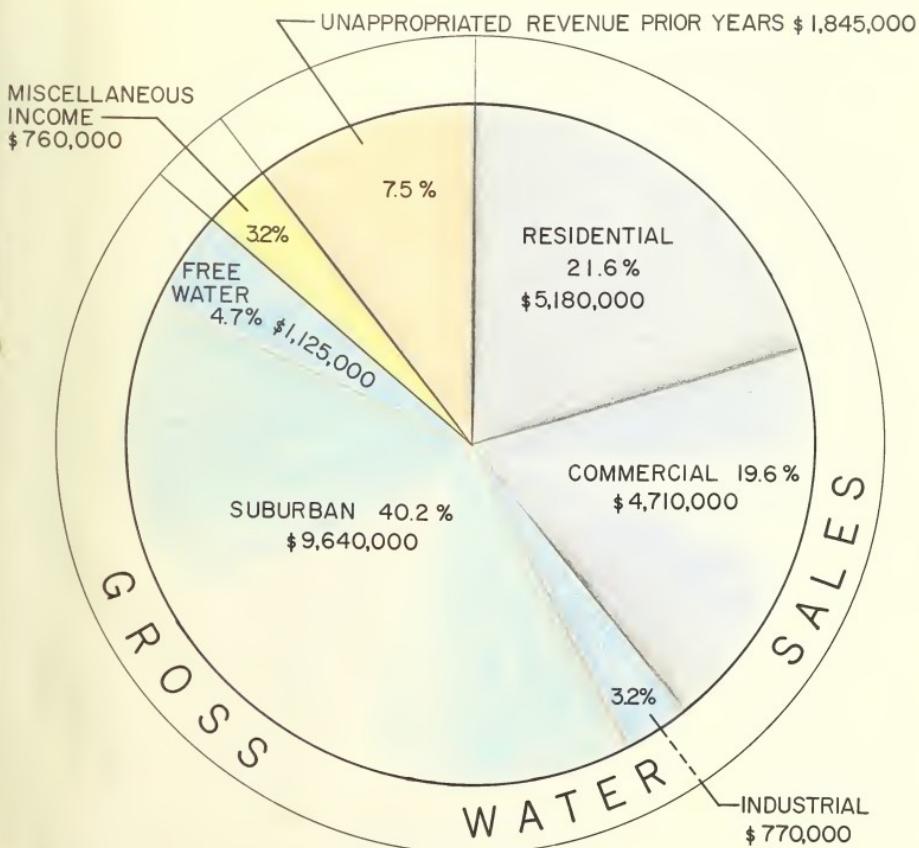
APPROVED AND  
FORWARDED  
TODAY



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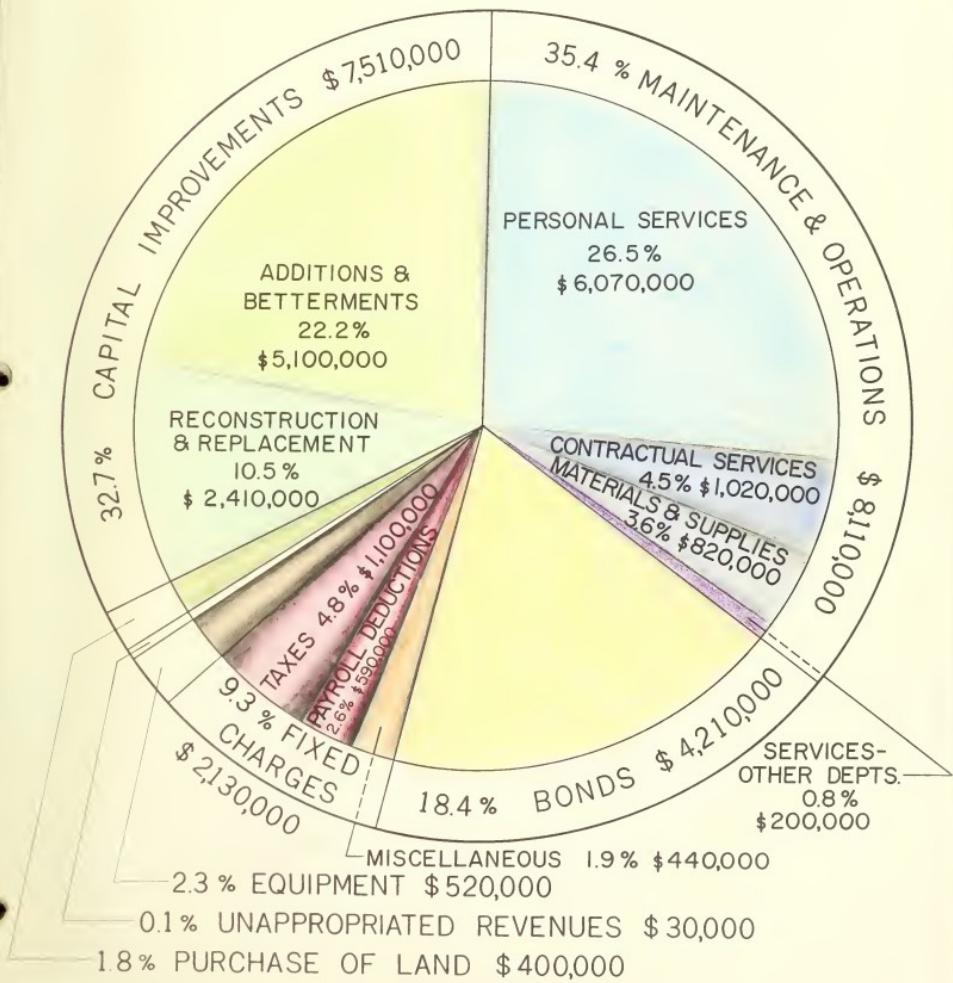
PUBLIC UTILITIES COMMISSION  
SAN FRANCISCO WATER DEPARTMENT  
AVAILABLE FUNDS  
\$24,030,000

INCLUDES \$1,125,000 OF WATER PRESENTLY FURNISHED FREE TO OTHER DEPARTMENTS





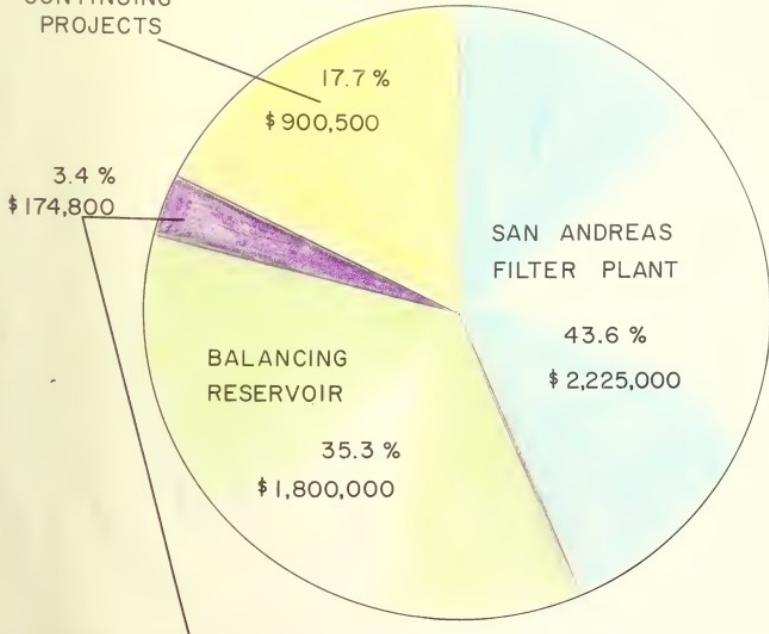
PUBLIC UTILITIES COMMISSION  
SAN FRANCISCO WATER DEPARTMENT  
 EXPENDITURES  
 \$22,910,000





PUBLIC UTILITIES COMMISSION  
SAN FRANCISCO WATER DEPARTMENT  
 ADDITIONS & BETTERMENTS  
 \$ 5,100,300

MISCELLANEOUS  
CONTINUING  
PROJECTS



MISCELLANEOUS ONE TIME PROJECTS

INSTALL ALTITUDE VALVE-LOMBARD RESERVOIR	\$ 6,000
MOTORIZ LARGE VALVES	24,000
FIRE TRAILS-ALAMEDA DIVISION	12,000
CRYSTAL SPRINGS BY-PASS FLUORIDATION PLANT	93,000
CONSTRUCT HOPPER-CDD YARD	30,000
LIGHTING VALVES - METER HOUSES	2,800
WATER SUPPLY-ALAMEDA EAST COTTAGE	2,000
LANDSCAPING - ALAMEDA DIVISION	5,000
	\$ 174,800

MISCELLANEOUS CONTINUING PROJECTS

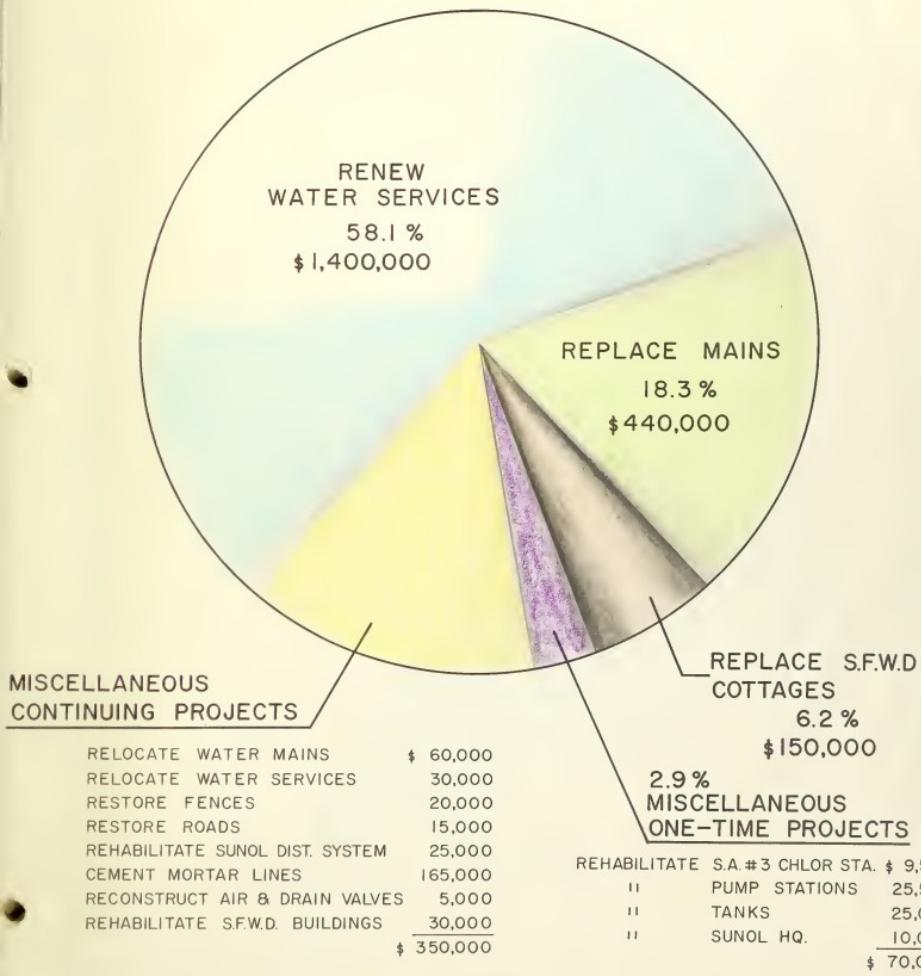
MAIN EXTENSIONS	\$ 350,000
NEW SERVICES & METERS	330,000
INSTALL GATE VALVES	52,500
PIPELINE ELECTROLYSIS	5,000
DEFINE R of W & PROPERTY LINES	20,000
SECONDARY FEEDER MAINS	98,000
TURBIDITY CONTROL	10,000
INSTALL DRAIN & AIR VALVES	15,000
FENCING SFWD PROPERTIES	\$ 20,000
	\$ 900,500

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PUBLIC UTILITIES COMMISSION  
SAN FRANCISCO WATER DEPARTMENT  
 RECONSTRUCTION & REPLACEMENT  
 \$2410,000



1968 - 1969

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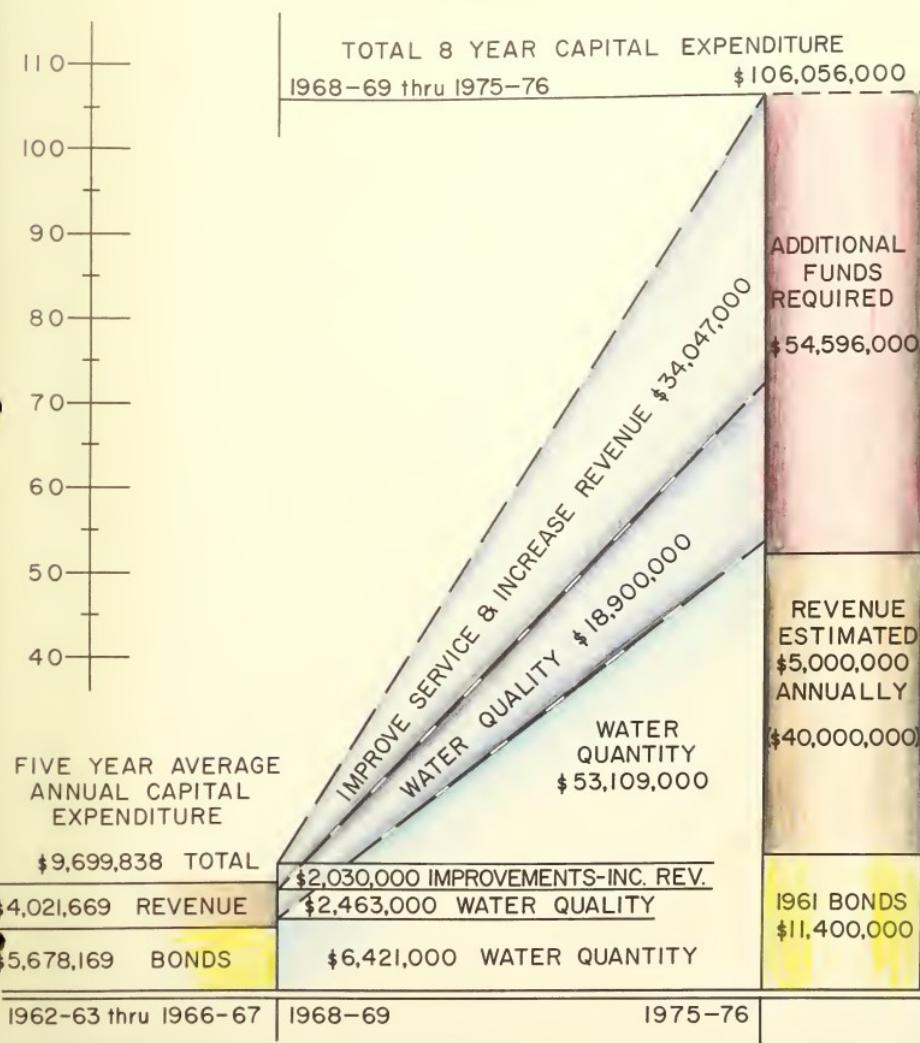
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# PUBLIC UTILITIES COMMISSION

## SAN FRANCISCO WATER DEPARTMENT

### 8 YEAR CAPITAL IMPROVEMENT PROGRAM





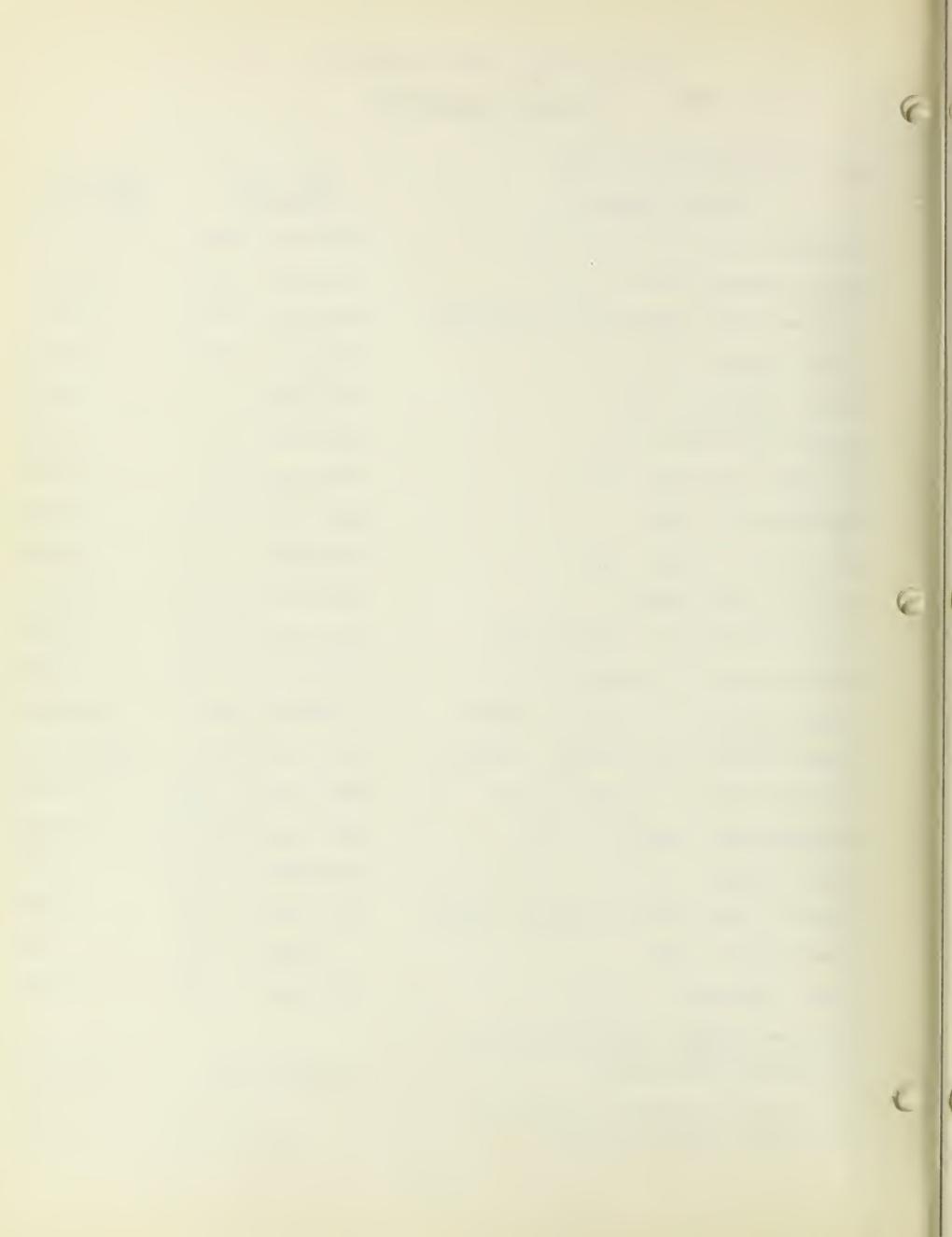




## SAN FRANCISCO WATER DEPARTMENT

DEFERRED MAINTENANCECITY DISTRIBUTION DIVISION

<u>Item &amp; Quantity</u>	<u>Est. Time Required</u>	<u>Estimated Labor Cost</u>
Eliminate Dead-End Mains - 25	150 days @ \$250	\$ 37,500
Kill & Abandon Mains - 10	50 days @ 250	12,500
Prospect Mains (Up-Dating of Records)	100 days @ 150	15,000
Cut-in Gates - 40	60 days @ 175	10,500
Install Hydrants - 59	75 days @ 200	15,000
Install Blow-Offs - 95	100 days @ 200	20,000
Blow-Off Conversion - 35	50 days @ 200	10,000
Gate Repairs - 250	200 days @ 150	30,000
Rebuild Air Valves - 100	100 days @ 150	15,000
Rebuild Meter Vaults - 5	25 days @ 125	3,125
Renew Services 3" & Larger - 15	30 days @ 200	6,000
Kill Services 3" & Larger - 5	10 days @ 150	1,500
Renew Services 2" & Under - 2,500	@ 242.86 each	607,150
Renew Services a/c Leakage - 5,000	@ 242.86 each	1,214,300
Kill Services 2" & Under - 750	250 days @ 100	25,000
Replace Meter Manifolds - 200	250 days @ 200	50,000
Meter Changes - 850	60 days @ 100	6,000
Special Meter Change Program - 2,500	170 days @ 100	17,000
Home Meters - 100	6 days @ 100	600
Meter Complaints - 2,500	100 days @ 100	10,000
Demolish Keeper's Cottages at Potrero Heights, College Hill and Lake Merced Reservoirs	@ 3,500 each	10,500
Rehabilitate Keeper's Cottage at University Mound Reservoir	Est. Cost:	17,500



<u>Item &amp; Quantity</u>	<u>Est. Time Required</u>	<u>Estimated Labor Cost</u>
Construct Sand Pit, Corp. Yard	120 days @ \$120	\$ 14,400
Replace 400' Fence, Univ. Mound Res.	15 days @ 120	1,800
Install 350' Fence, LaGrande Pump Sta.	15 days @ 120	1,800
Repair Fence, Lane St. Pump Station	3 days @ 120	360
Replace Plates, Posts and Screens on Roof of Stanford Heights Reservoir	160 days @ 200	32,000
Replace Forebay Roof, Lake Honda Res.	10 days @ 160	1,600
Rehabilitate Valve House, Laguna Honda Reservoir	40 days @ 200	8,000
Replace 1400' Wood Fence, Lombard Res.	15 days @ 200	3,000
Rehabilitate Legion of Honor Pump House	30 days @ 200	6,000
Scrape & Paint Metal Work on Corp. Yard Structures (Now only 12% Complete)	120 days @ 40	4,800
Replace Chain Link Fences (approx. 4000'), South Basin Univ.Mound and North Basin Sunset Res.	60 days @ 120	7,200
Clean & Paint 15 Pump Station Structures and 10 Gardener Sheds	75 days @ 40	3,000
Clean & Paint 1200' Chain Link Fence, Lake Honda	20 days @ 40	800
Install Steel Cable Fence, Summit Res. (220')	15 days @ 80	1,200
Rehabilitate 50 Patterns for C.I. Fittings	250 days @ 40	10,000
Pump Inspection & Repair Program (1-Machinist)	250 days @ 40	10,000
Pump Motor Inspection Program (1-Sta. Eng)	125 days @ 40	5,000
Motor Vehicle Maintenance Program	250 days @ 41	10,250

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<u>Item &amp; Quantity</u>	<u>Est. Time Required</u>	<u>Estimated Labor Cost</u>
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<u>Item &amp; Quantity</u>	<u>Est. Time Required</u>	<u>Estimated Labor Cost</u>
Landscape & Maintain:		
Francisco Reservoir - 14,800 sq.ft.		
North Basin, Univ. Mound Res. & Pipe Yard - 80,000 sq.ft.		
Reis Tract - 90,200 sq.ft.		
Potrero Heights Res. - 17,400 sq.ft.		
South Basin, Sunset Res. - 65,000 sq.ft.		
Summit Res. - 35,000 sq.ft.		
Balboa Res. - 150,000 sq.ft.		
San Andreas #2 Pipeline Right-of-Way - 899,000 sq.ft.		
	Total: 1,351,400 sq.ft. (31 Acres)	

#### Improved Maintenance of Other Landscaped Properties

TOTAL PROGRAM REQUIRES MINIMUM OF			
2 Gardeners	500 days @	40	20,000
	Total Estimated Cost		\$2,275,385

#### PENINSULA DIVISION

##### NEW EMPLOYMENTS

We are sorely in need of an Automotive Machinist to keep our fleet of 96 units in working condition so that they may be used by our men in the field.

One Management Assistant is badly needed to keep the Executive Office informed of our activities and needs through the preparation of budgets, reports, enforcing policies and coordinating problems of purchasing, and other administrative and management operations.

##### RECONSTRUCTION AND REPLACEMENTS

We are in desperate need of replacing 5 Watershed Keepers' cottages. Without going into detail, it can be stated flatly that because of their age, deterioration, and their cheap original construction these cottages are a disgrace to the Department and an imposition on the families required to live in them.

The recurring items of maintenance, reconstruction and replacements for which we have requested new employments and additional equipment consist of scores of miles of fence, some 30 or more miles of road to be rocked, rolled and surfaced, scores of culverts and catch basins to be installed in these roads, dozens of check dams and silt ponds to be built in canyons and ravines, thousands of acres to be re-forested, hundreds of acres of slopes and cuts to be seeded and planted for erosion control, a score of valve lots to be fenced for protection against vandalism, and numerous new structures and transmission mains to be serviced and maintained.

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Some of the new employments and equipment should also be diverted to new construction. With our minute force of journeymen personnel a new service, for example, will take some 3 to 6 months to install and cost the Department substantial sums in loss of revenue on account of this prolonged construction period - and leaves much to be desired in terms of service to our customers.

ALAMEDA DIVISION

WATERSHED MANAGEMENT:

1. Replace Fences.

- a. About 46 $\frac{1}{2}$  miles of replacement of fencing along roads to protect against indiscriminate trespass is urgently needed. Existing fencing is 37 $\frac{1}{2}$  years old and has had little or no adequate maintenance during this time....  
.....\$ 53,000.00
- b. About 114 miles  $\frac{1}{2}$  of boundary fences need replacement. Past practice of depending upon lessee maintenance of fences (Less reasonable wear and tear) has resulted in badly deteriorated fences. In order to bring these fences up to acceptable standards, it will be necessary to replace about 15 miles of fencing per year for the next ten years.....\$154,000.00

2. Reservoir Clearing.

- a. About 26+ miles of shoreline on Calaveras Reservoir and 20 miles of shoreline on the new San Antonio Reservoir are loaded with debris. Under the restriction posed by air Pollution Board directives, it will be necessary to collect and pile this debris rather than burning it. A rough estimate calls for about 16 man days per mile to gather and carry this debris above the high water line.....\$ 85,000.00

3. Creek Channel Clearing 20+ miles.

- a. The various creeks draining the watersheds have of necessity been completely ignored for at least 20 years. The channels are overgrown with trees up to 18" in diameter and in times of heavy runoff develop heavy stream bank erosion carrying extra silt into the reservoir. It is estimated that a crew of one foreman and four laborers could clear about 100 yards per day. Use of heavy equipment could speed this process and possibly save money....  
.....\$ 70,000.00

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4. Road Maintenance.

- a. There are over 50 miles of patrol and fire roads within the division which are without culverts and need the protection of at least gravel to provide all year access to the various sections of the watershed. The breakdown on this job - graveling roads (using material on watershed and our own equipment).....\$ 5,300.00  
Mile or total.....\$106,000.00
- b. Culverting roads - allowing 4 culverts per mile and 4 mandays per culvert.....\$ 48,000.00

5. Pipeline Maintenance.

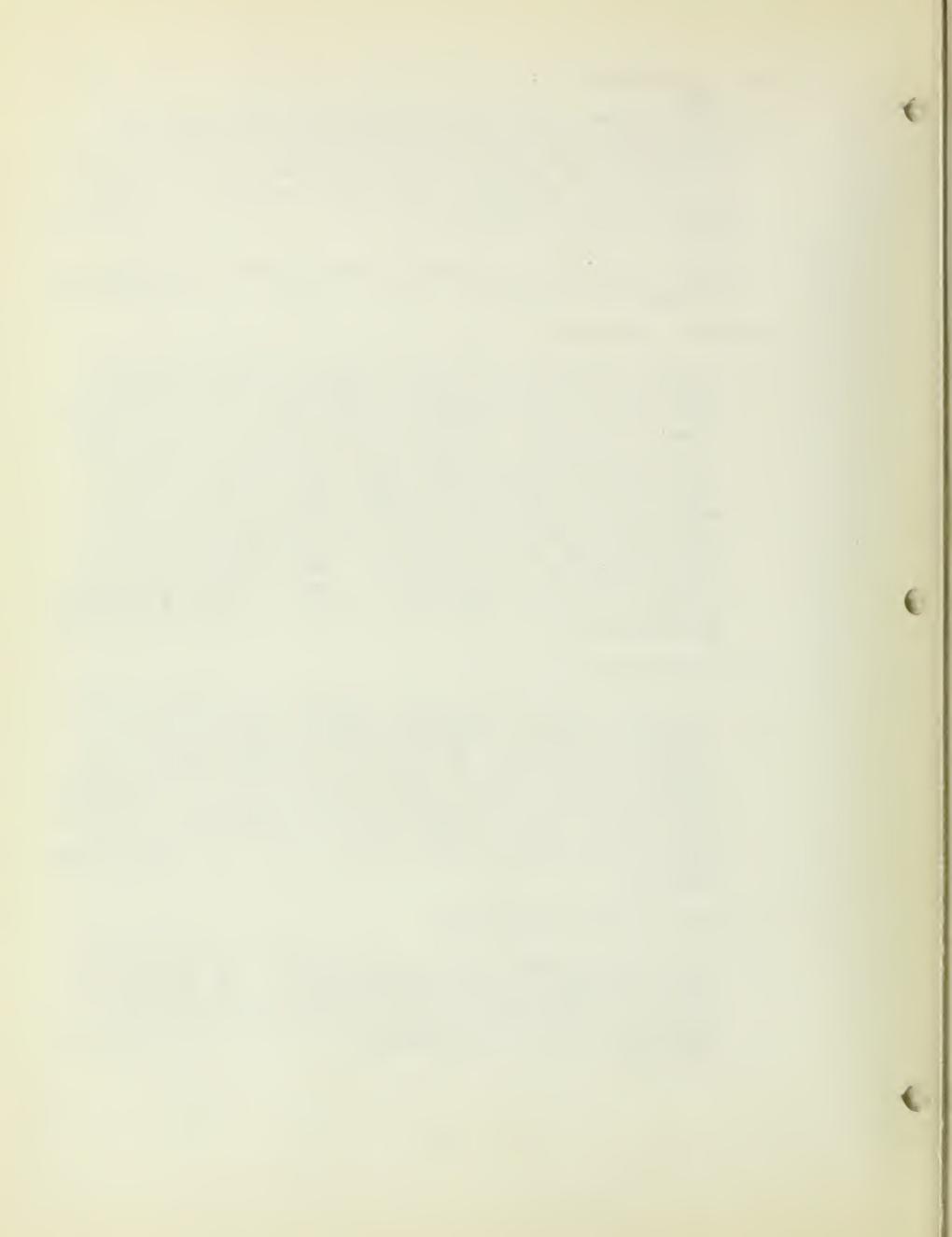
- a. Trestle maintenance. About 23,000 feet of pipeline in this division is on trestles. Except for one program 1959-1960 and some emergency flood repairs, no real maintenance programs on either the pipelines or the trestles have been possible. Requests for manpower to institute a maintenance program have been turned down. There is presently a budget item for \$300,000 to sandblast and paint the Bay Division Pipelines west of Newark, but a continuing program of preventive maintenance must wait until manpower needs are met. It is estimated that a crew consisting of a carpenter, labor foreman and 6-8 laborers would be needed for at least 8 months per year on these trestles alone plus 4 months on other pipelines. Estimated cost.....\$100,000.00

6. Valve Maintenance.

- a. No program exists and unless manpower is augmented, any program by outside divisions would be too expensive to justify, considering travel time and transportation. A program could be set up using one utility plumber, one helper and one laborer, plus transportation, to repack valves, grease stems, check operation and replace smaller components. Larger valves would be checked and repairs made by city shops. Above program would cost approximately.....\$ 20,000.00 per year.

7. Customer Service Maintenance.

- a. While this program is the responsibility of the Peninsula Division, no real program exists. The addition of a plumber and helper in this division would provide us with the help necessary to cover the above function. The cost would be approximately.....\$ 20,000.00 per year.

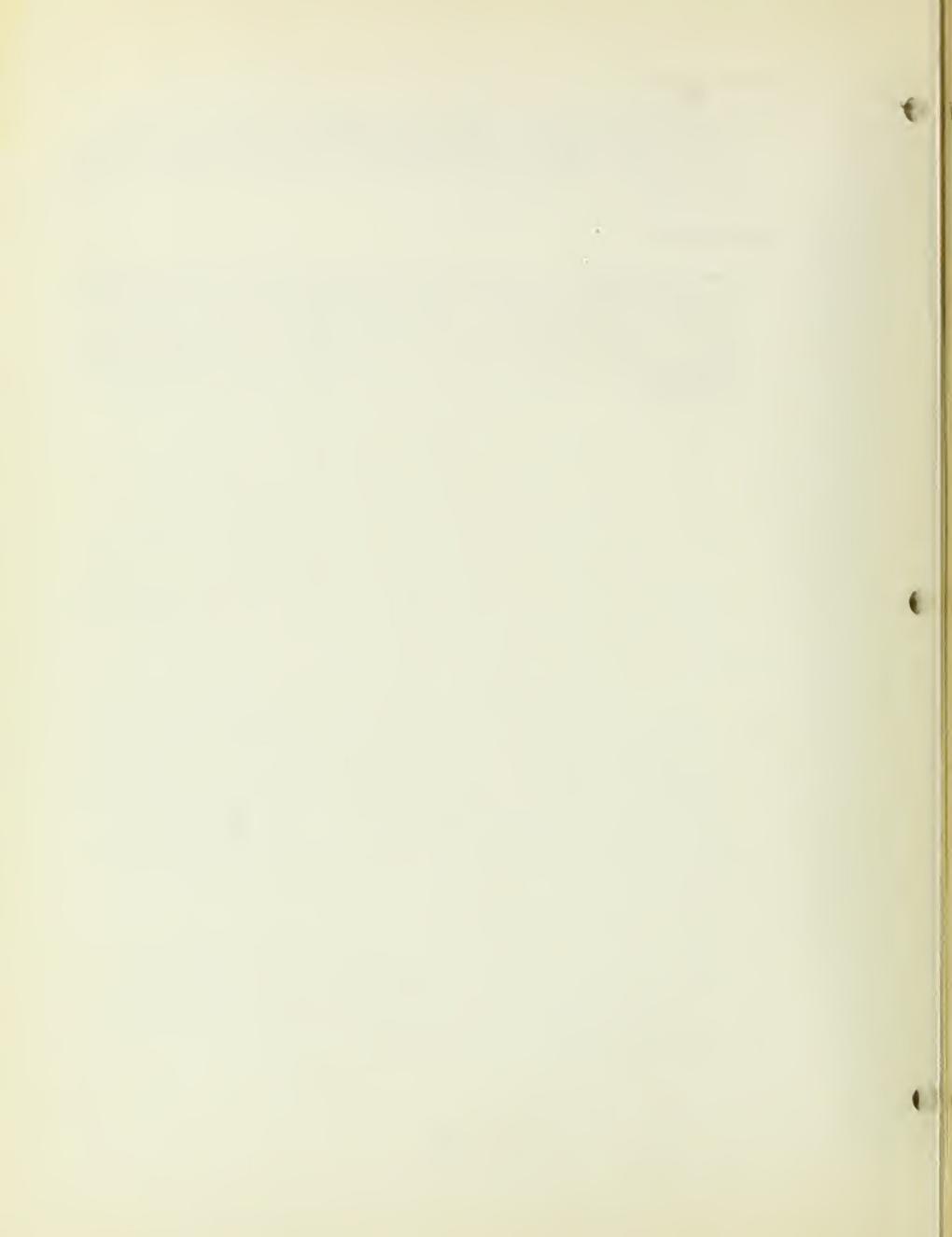


8. Fireguarding.

- a. Twenty-five miles of pipeline right-of-way are being rapidly urbanized. This has forced us to pick up this extra work load under maintenance (formerly farm lands).  
.....\$ 10,000.00  
per year.

9. Landscaping.

- a. New plantings at the Sunol Filtration Plant, San Antonio Pump Station, and Sunol Pump Station have all been extensively landscaped. The work load of these installations calls for the services of at least five men in addition if these plantings are to be kept in an acceptable condition.....\$ 45,000.00  
per year.







## 2. OPERATING DIVISIONS CLERICAL AND MANAGERIAL DEFICIENCIES

### New Employments (Partial Listing)

- 2 - 1426 Senior Clerk Typist
- 1 - 1444 Clerk Stenographer
- 2 - 1842 Management Assistant
- 2 - 1424 Clerk Typist

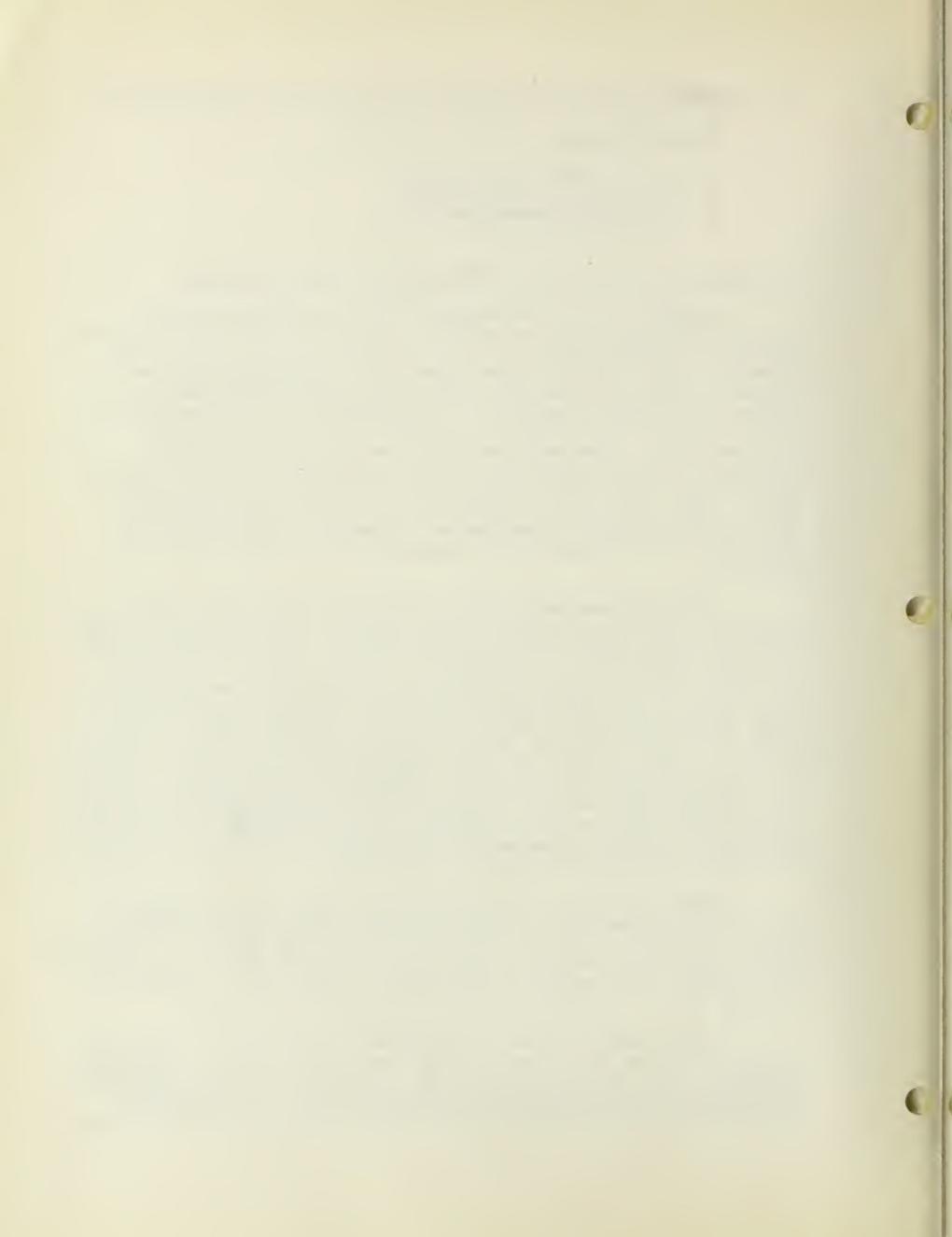
### Two Senior Clerk Typists (City Distribution Division)

Because of an increasingly heavy workload brought about by expansion and growth of the City Distribution Division of the Water Department, it is now found that the existing clerical force in the Corporation Yard Business Office can no longer function adequately. Handling of telephone calls, filing, recording, reporting, requisitioning, purchasing and other necessary functions are being deferred during the normal business day. This workload involves the several shops, warehouse, field operations, minor engineering, and the City Distribution Division offices operating from the Corporation Yard. When there is a shortage in the usual complement of personnel, emergency assistance is generally unobtainable and more costly field force personnel are used to meet the problem.

The Yard Business Office is responsible for, and is constantly working against, deadlines on numerous reports and functions that must be carried on daily. All written records of every description are handled in this office, including the initiation of work orders following written or telephoned complaints from City-wide sources; processing of completed work reports from the field forces and various shops; preparation of no less than 50 paving orders each day; a vast amount of paper work involved in the requisitioning, receipt, storage and issue of some 2,200 items of materials and supplies involving an inventory value of approximately \$900,000; maintenance of detailed and intricate records and the preparation of papers involved in the procurement and assignment of temporary personnel which continues throughout the year.

Since moving to the centralized location incorporating all division functions remote from the Mason Street Office, heavier telephone communication has been experienced. Telephone calls alone are taking up much of each employee's time and it is becoming more and more difficult to give one's attention to a given task or problem without frequent interruption.

As a result, each of the present employees in the Yard Business Office is so heavily overloaded that it is constantly necessary for the Principal Clerk to perform various clerical functions at the expense of his normal supervisory duties. This reduces his effectiveness in providing proper supervision,



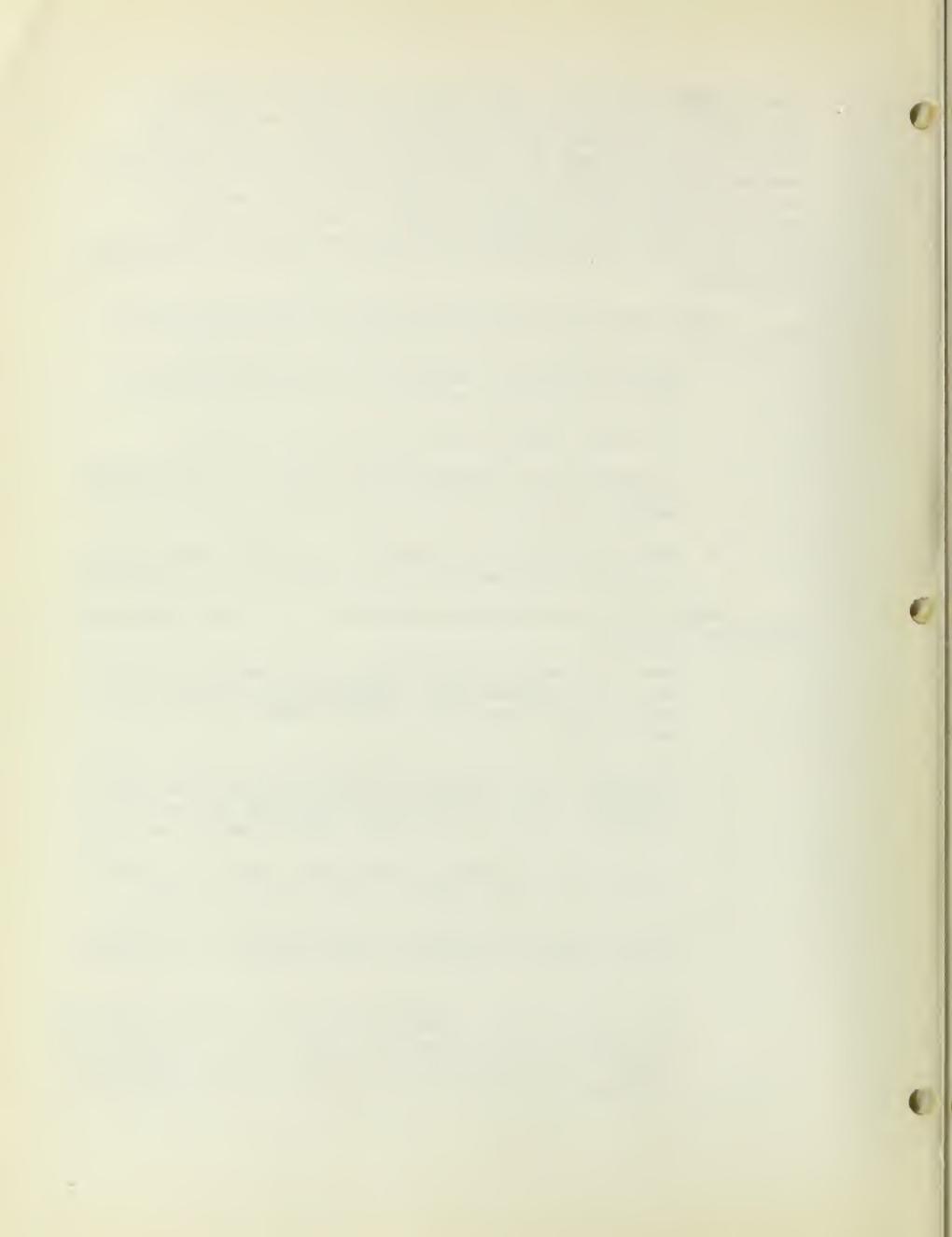
planning and training. Even with the constant clerical performance of the Principal Clerk, and the use, as funds will permit, of temporary employments, back-logging and delaying of important and essential functions are increasing. Another factor relating to backlogging is that the need for increased production as well as more efficient work and material controls to reduce operating costs leaves the division hard-pressed to give prompt attention to the public. This increases the likelihood of liability because of possible negligence.

The general functions performed in the Yard Business Office may be described under four general categories:

1. Requisitioning of WAREHOUSE and other materials and related processes.
2. PERSONNEL requisitions, time reports, etc.
3. Telephoned and corresponding "Report & Information" tags, including other FIELD REPORTS, such as Paving Orders, etc.
4. GENERAL SERVICES AND REPORTS to other Water Department Divisions as well as to other City Departments.

Under these four general categories, the most essential functions include:

1. Requisitioning of materials and inventory control for the warehouse that supplies all of the field work in San Francisco, and for other Divisions in some cases.
2. The proper handling of approximately 12,000 yearly telephone calls regarding water leakage, service requests, etc., within San Francisco, which results in written orders, reports, paving orders, etc.
3. Time cards and vehicle operation cards for approximately 200 employees for each day of the year.
4. Personnel requisitions and procedures involving a large number of temporary employments that continue throughout the year.
5. General services connected with the routine operations of a distribution system supplying over 150,000 water services and approximately 1,200 miles of mains, with payroll of approximately \$1,500,000 and employees numbering about 200. Maintenance records and routine



clerical work concerning 200 vehicles, pumps, and other mobile equipment must also be handled.

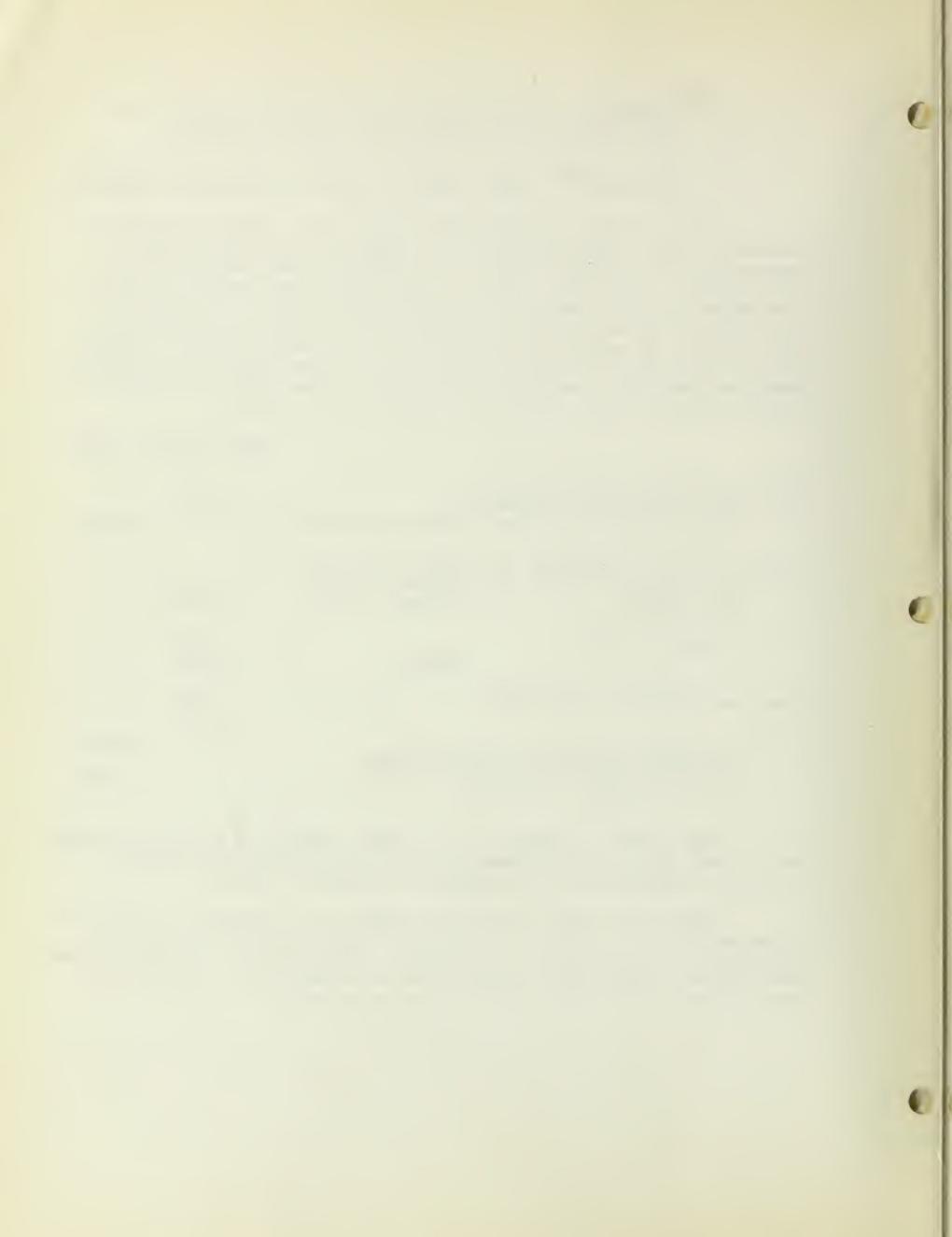
6. Cost records for customer deposit work (Custom Work Accounts). This type of work is increasing annually.

Within these four general categories, approximately 100 standard forms are involved which require preparation and processing in varying volume. A study of the normal volume and average processing time for each form was conducted which indicated a total man day requirement in excess of what is available with the present clerical work force. In conducting this study, it was found that there are other clerical duties which could not be reduced easily to a fixed time. The clerical workload man days required and the total man days available as brought out in this study are compared as follows:

	<u>Man Days Per Year</u>
Shops clerical requirements	194
All other clerical requirements	<u>1,942</u>
TOTAL CLERICAL MAN DAYS NEEDED PER YEAR	2,136
 Total clerical man-days available per year: 3 - Senior Clerk Typist      1 - Payroll Clerk 1 - Clerk Typist                1 - Account Clerk	1,500
1 - Principal Clerk	150
Total	<u>1,650</u>
 Less anticipated sick leave	-70
	<u>1,580</u>
ADDITIONAL CLERICAL REQUIREMENTS TO MEET CURRENT WORKLOAD	<u>-1,580</u> 556

The obvious deficit in man days needed at present is made up in part by the assignment of field personnel to perform clerical functions at the expense of normal duties.

While the total man days needed is in excess of two full time employees, only two (2) Senior Clerk Typists are being requested at this time. This would provide for greater efficiency and a more economical operation than is presently provided by the use of higher paid field force personnel.

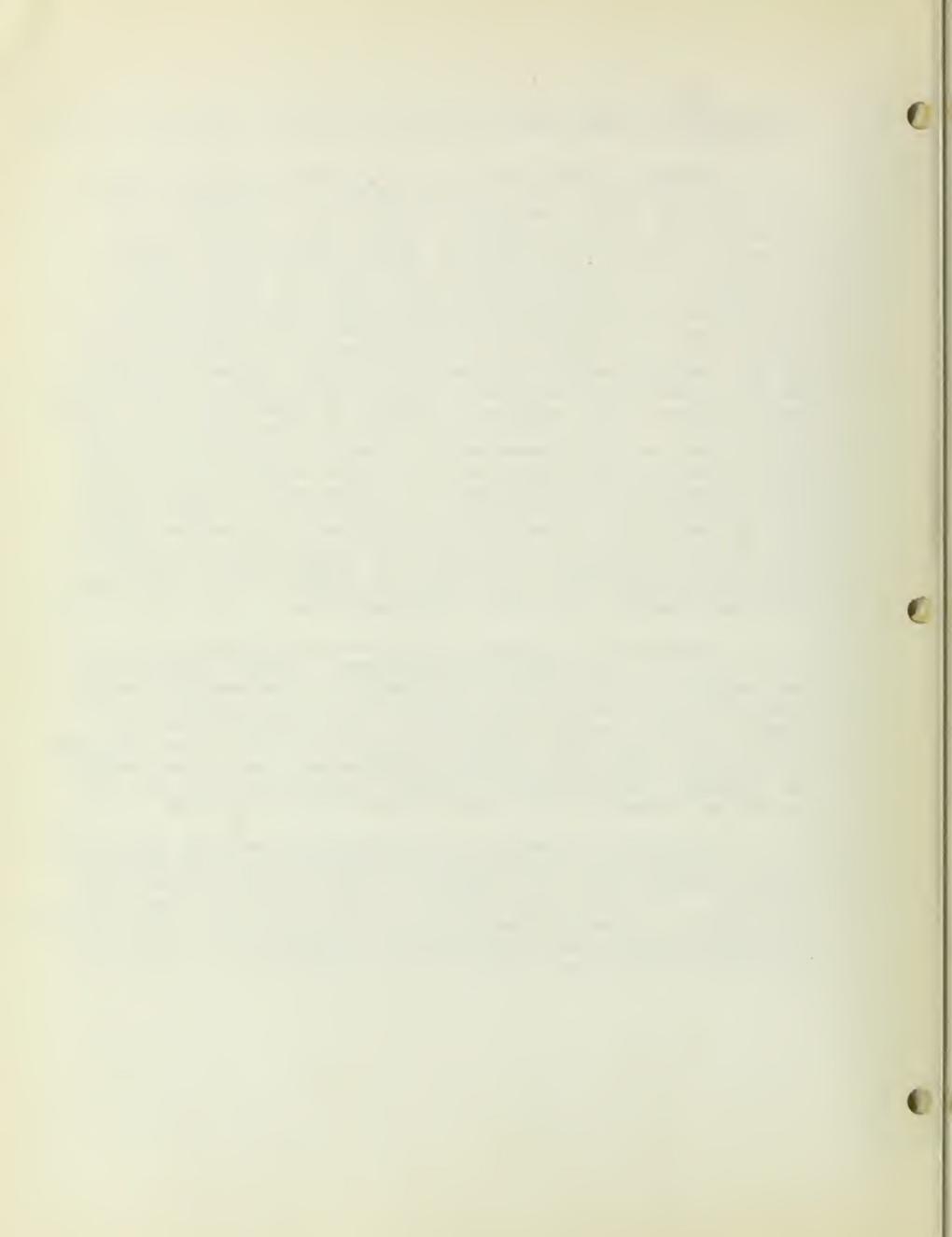


1 Clerk Stenographer and 1 Management Assistant (City Distribution Division)

Expansion and growth of the Department during the past years and the acquisition of new projects and programs such as water quality (involving main flushing), the conversion of blowoffs from street surfaces, a considerable increase in service renewals, fire services, meter installations, meter complaints, paving requirements, all types of leaks, urban redevelopment and street improvement work has imposed an administrative and clerical workload that cannot be handled properly with the existing City Distribution Division permanent office force. In addition, the movement of all CDD functions to the new Corporation Yard has resulted in a great increase in both written and telephonic communication between the Division and the Mason Street offices. Because of these and other factors, the workload is now such that many office functions are being delayed and seriously backlogged. There is no time for reviewing and maintaining efficient files which causes loss of time when research is required, and only those matters that are of prime importance at the moment are handled on a current basis. One of the duties of the Division Manager is to devise plans and improve procedures and operations of the Division. In this Division the workload is so heavy, so complex and so urgent, there is not time for thought or even partial study, and quick judgment must be made with a calculated risk.

Insufficient personnel is prevalent throughout the Division and, in the case of the Manager's Office, the present one employee (Senior Clerk Stenographer) is so busy that some portions of her duties have been deferred indefinitely and she cannot properly handle dictation and transcription for the Manager, let alone the Assistant Manager and other section heads. As a result, they must prepare correspondence and other matters in longhand, which takes up valuable supervisory time and compounds an already critical and administrative shortage.

To enable the Manager and Assistant Manager to efficiently handle administrative and supervisory functions, they must be able to dictate and have letters and other matters transcribed promptly. They must be relieved of minor administrative work and detail. To accomplish this it is necessary that one additional Clerk Stenographer and one Management Assistant be employed in the City Distribution Division on a permanent basis.



One Management Assistant (Peninsula Division)

The administrative activity and paper work required in the City Distribution Division is nearly matched in the Peninsula Division where the volume of work can no longer be handled properly by the division heads and top supervisory personnel. Current non-compensatory overtime work fails to keep this work on schedule and essential operating work is not being given the attention that is warranted. Encroachments, increased interest in recreation and other Water Department land uses, freeway problems, rapid transit problems, formation of various districts in the divisional service area, and general consumer inquiries and complaints, plus required attendance at meetings and hearings, are all adding to the administrative work at the division level. Much of this work can be economically and efficiently accomplished by employment of a Management Assistant assigned to the Peninsula Division.

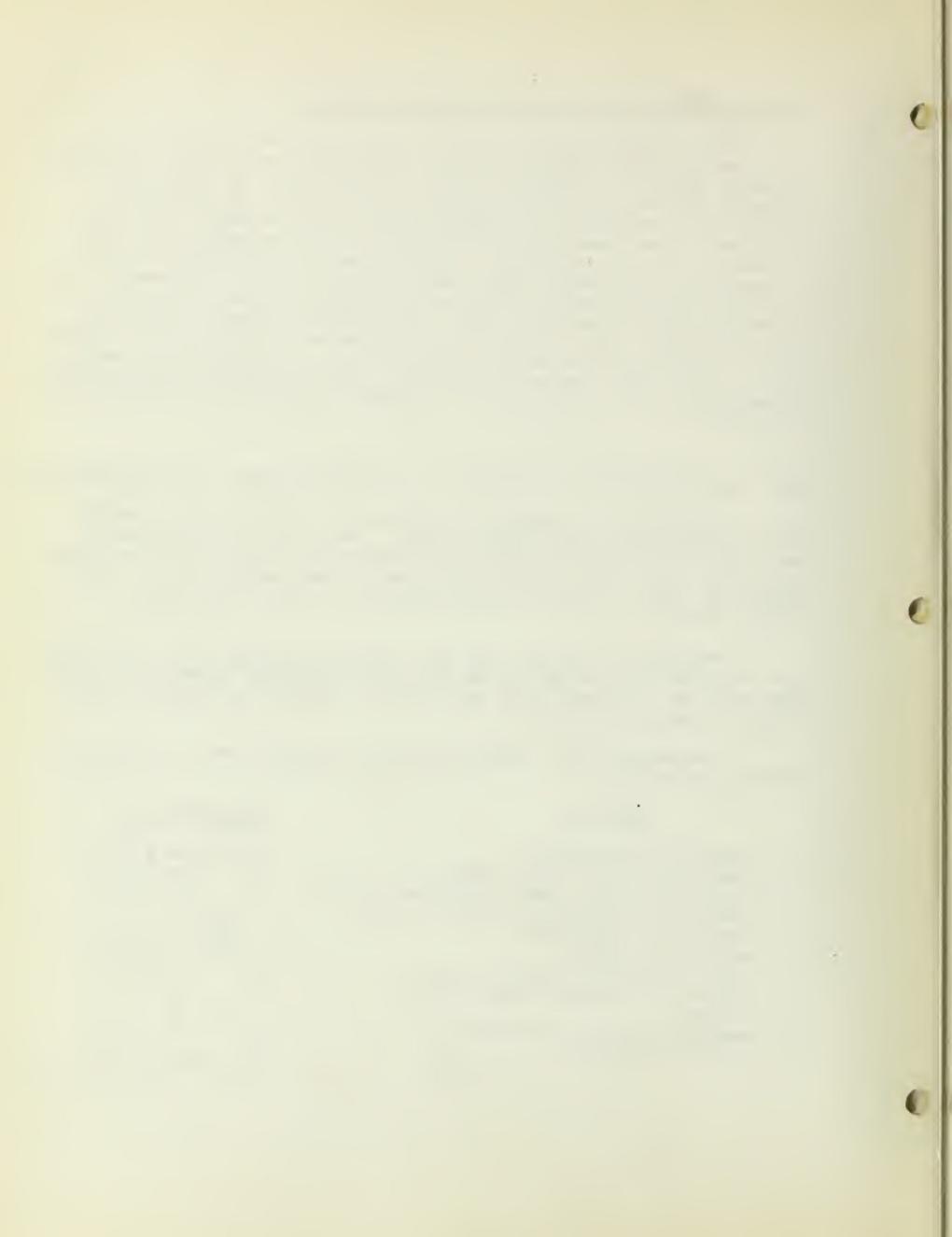
Two Clerk Typists (1 - Alameda; 1 - Purification) - Alameda Division

Historically, the Sunol Office was staffed with a Senior Clerk Stenographer and Clerk Typist. In 1958, the workload of the then Assistant Superintendent became so heavy it was necessary to divide his duties. This was done by reclassifying the Clerk Typist to what is now the Senior District Water Serviceman (Class 7317).

Procedural changes and an expanding system have increased the workload and force the Manager and Assistant Manager to spend much time on clerical work and routine reports to the detriment of divisional operations.

The actual time needed daily on clerical work is approximately as follows:

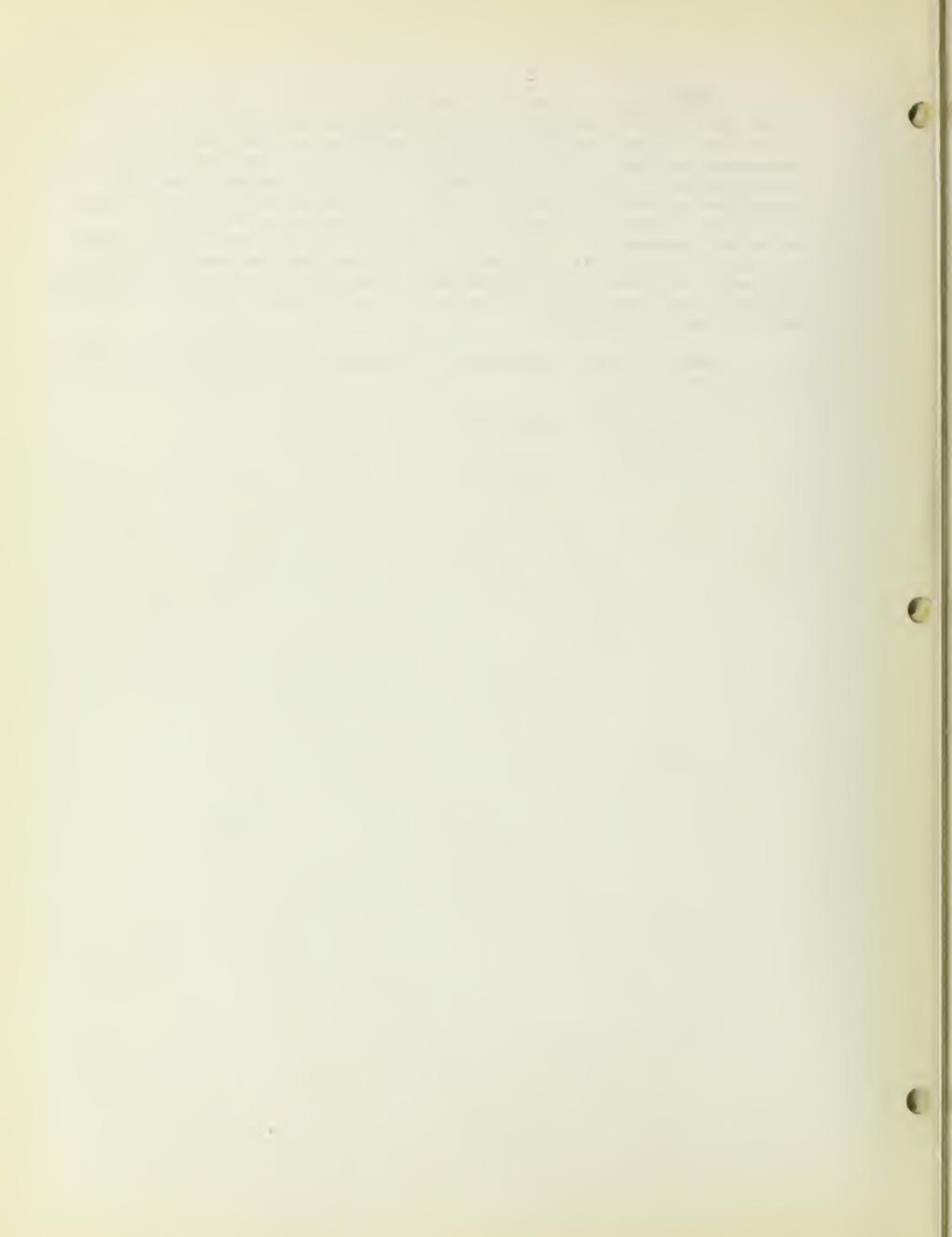
<u>Activity</u>	<u>Hours Per Day</u>
1. Answering telephone	1-1/4 to 1-1/2
2. Preparing Daily Water Reports	1 to 1-1/4
3. Processing Time Cards and Time Reports	2 to 2-1/2
4. Processing Inventory Control Cards	1/2 to 3/4
5. Handling Collections	1/2 to 1
6. Monitoring Radio	3/4 to 1-1/4
7. Typing Reports, Letters, etc.	2 to 2-1/2
8. Preparing Material Requisitions	1 to 2
9. Filing	1/4 to 1/2
10. Assembling Data for Reports	1 to 2
11. Taking Dictation	1 to 1-1/2
Total	11-1/4 to 16-3/4 hours



Currently, the work in excess of the one clerk's eight hours per day is performed by the Manager or Senior District Water Serviceman, requiring both overtime and the neglect or deferment of needed field investigations of required maintenance, direction and check on field work, property inspections that cannot be covered by routine patrol, work scheduling and general planning. There is insufficient overtime money to cover salaried personnel.. It is not sound business practice to use top-level supervisors to perform clerical duties nor is it desirable to have them consistently working long hours. Assignment of a permanent Clerk-Typist to the Alameda Division will rectify this situation.

The following equipment is essential for performance of assigned duties:

- 1 - Electric Typewriter
- 1 - Desk
- 1 - Chair



### 3. DISINFECTION OF WATER MAINS

#### New Employment

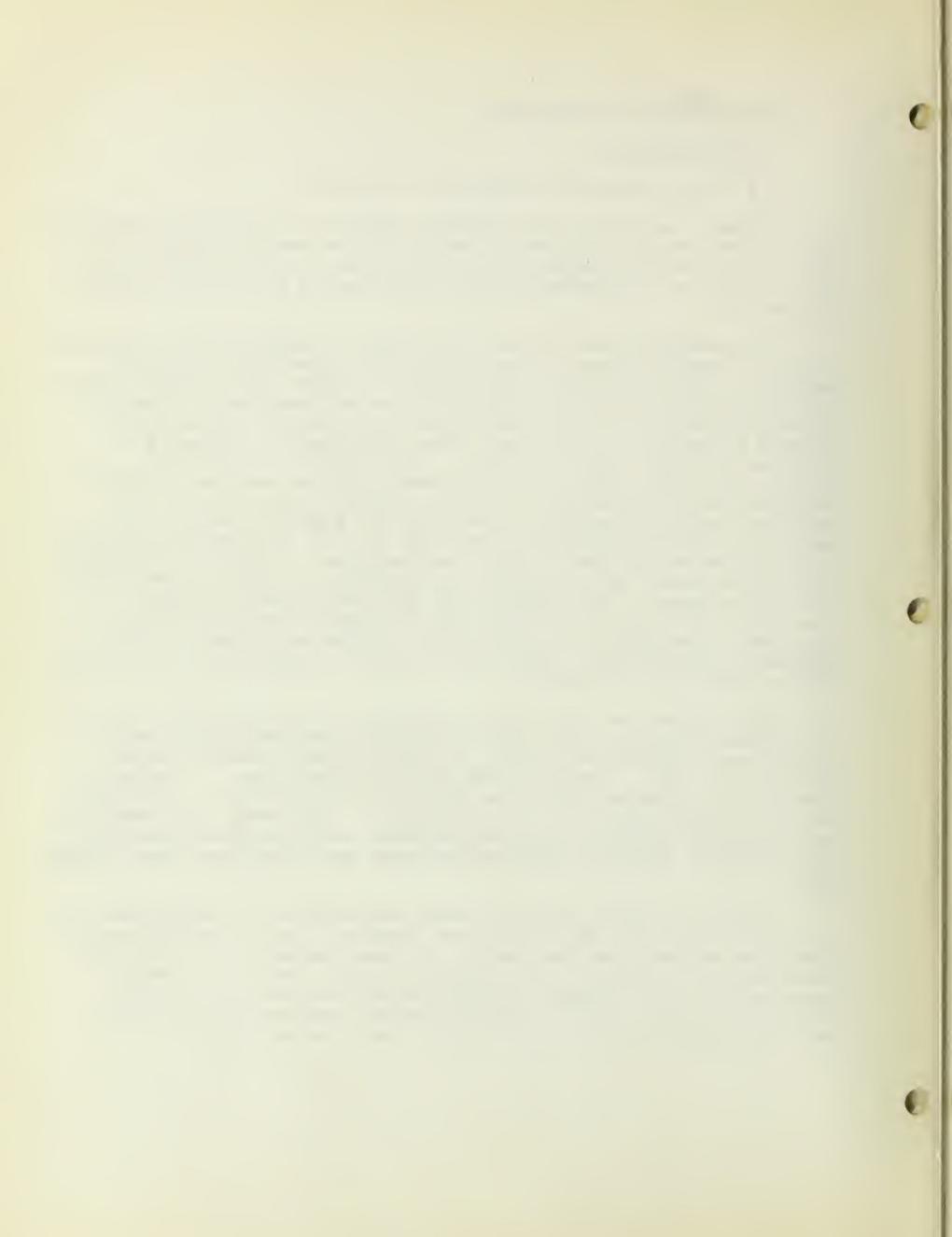
##### 1 - 6106 Sanitary Engineering Technician

Prudent, accepted water utility operation and Health Department regulations governing Water Purveyor Permits and Interstate Carrier Water Supply Certification require that all new water mains and alterations be disinfected prior to placing in service for public consumption.

In compliance with these regulations, a departmental directive detailing specific procedures is in effect providing for disinfection of all new mains, replacements of mains, and connections or appurtenances added thereto whether done by Department forces or under contract by others. This work is now partly being accomplished by Junior or Assistant Water Purification Engineers in addition to their regular duties. At present, one sanitary engineering technician and approximately 40% of one man's time is required for disinfection of new or replaced mains alone. In addition, main and service alteration and repair disinfection may and is being performed by any one of some 92 Plumbers, Helpers, and Laborers who follow written instructions. This is a calculated risk which should be eliminated by providing a qualified employee for this purpose. The workload in the Purification Division precludes assignment of Purification Engineers to this function on a full time basis, and there are no other personnel in the Department technically qualified to assume supervision and control of the disinfection program.

The California State Health Department has expressed its dissatisfaction with the Water Department program in its "Report of Sanitary Engineering Survey of Public Water Systems" dated January 30, 1963. Under RECOMMENDATIONS they state: "The main disinfection program should be improved considerably". And again under PROGRAMS WHICH NEED HIGH PRIORITY: "Assurance that manpower and money are available for satisfactory water main disinfection". To this date, neither qualified manpower nor funds have been obtainable.

In view of this, attempts have been made by the Department to upgrade this program with existing personnel, but it still remains less than adequate or desirable. In some instances the Sanitary Engineering Technician will actually do the work, but in most cases will mix the proper strength solutions, supervise actual operations, take required bacteriological samples for analysis, and officially certify that the work was done properly.



4. BUILDING MAINTENANCE AND SURVEILLANCE

New Employments

2 - 2714 Janitor

Janitorial personnel assigned to the Water Department building at 425 Mason Street now consists of one Janitor Foreman, one Sub-Foreman, four full time and one Janitor working intermittently.

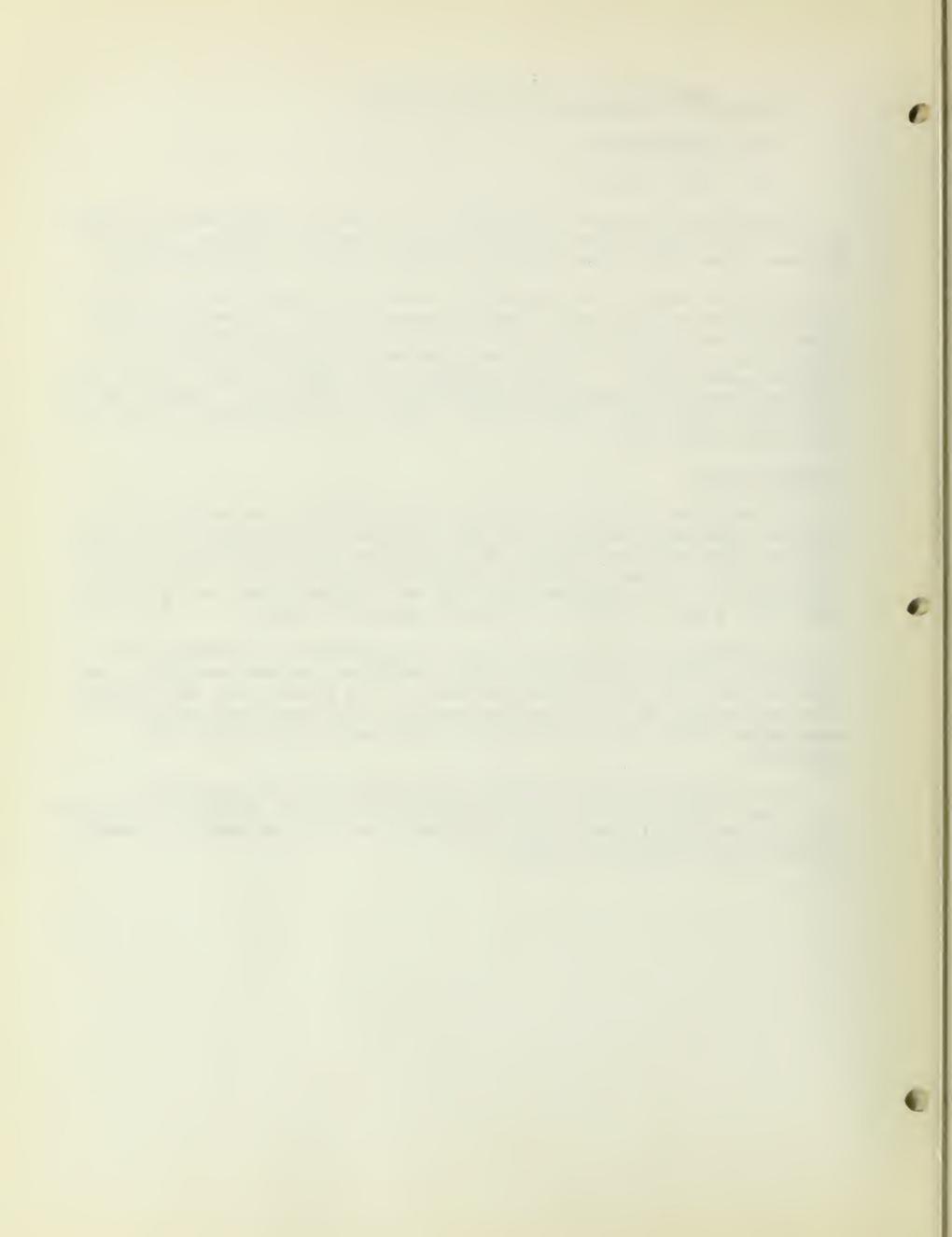
Building aging, new furniture and office machines, and the installation of Electronic Data Processing with its many complex pieces of equipment have increased the janitorial workload to the point where it can no longer be adequately performed with the present work force. As the building gets older, floors, walls and fixtures become increasingly difficult to maintain. Because of an inadequate janitorial work force, only the most essential services are being performed.

Surveillance:

In addition to the janitorial difficulties, the adoption of Centrex telephone service and the transfer of telephone operators to the radio central control point at the Corporation Yard leaves the 425 Mason Street building unattended on week days after the janitorial force completes its work at 1:30 a.m. and on Saturdays from 4:00 p.m. to 8:00 a.m. and all day on Sundays.

Consideration has been given to acquisition of Watchmen to provide building surveillance when Janitors are not working. In view of the fact that Watchman time is not productive and because the janitorial workload has increased, efficiency and economy of operation points to utilization of the more productive type employee.

The requested two Janitors will accomplish two purposes:  
(1) They will provide the additional work force needed to properly perform essential janitorial services; and (2) provide the needed surveillance during all hours.



5. CLAIMS

New Employment

1 - 8158 Claims Investigator

The workload of the Claims Section of the Water Department continually becomes greater. The added volume is brought about by increased Department of Public Works street reconstruction and widening, and by increased excavation on private property as well as continually increasing damage claims.

As referred to in Leak Detection and Location of Underground Facilities, liability under existing law makes it essential that mains and services adjacent to excavations within property lines receive protective and preventive measures. This has required a great volume of contacts with engineers and property owners to determine the extent of protection and preventive work required to avoid liability.

The increased cost of vehicular accidents has made necessary the careful and complete investigation of each occurrence with the objective of decreasing the frequency of these occurrences.

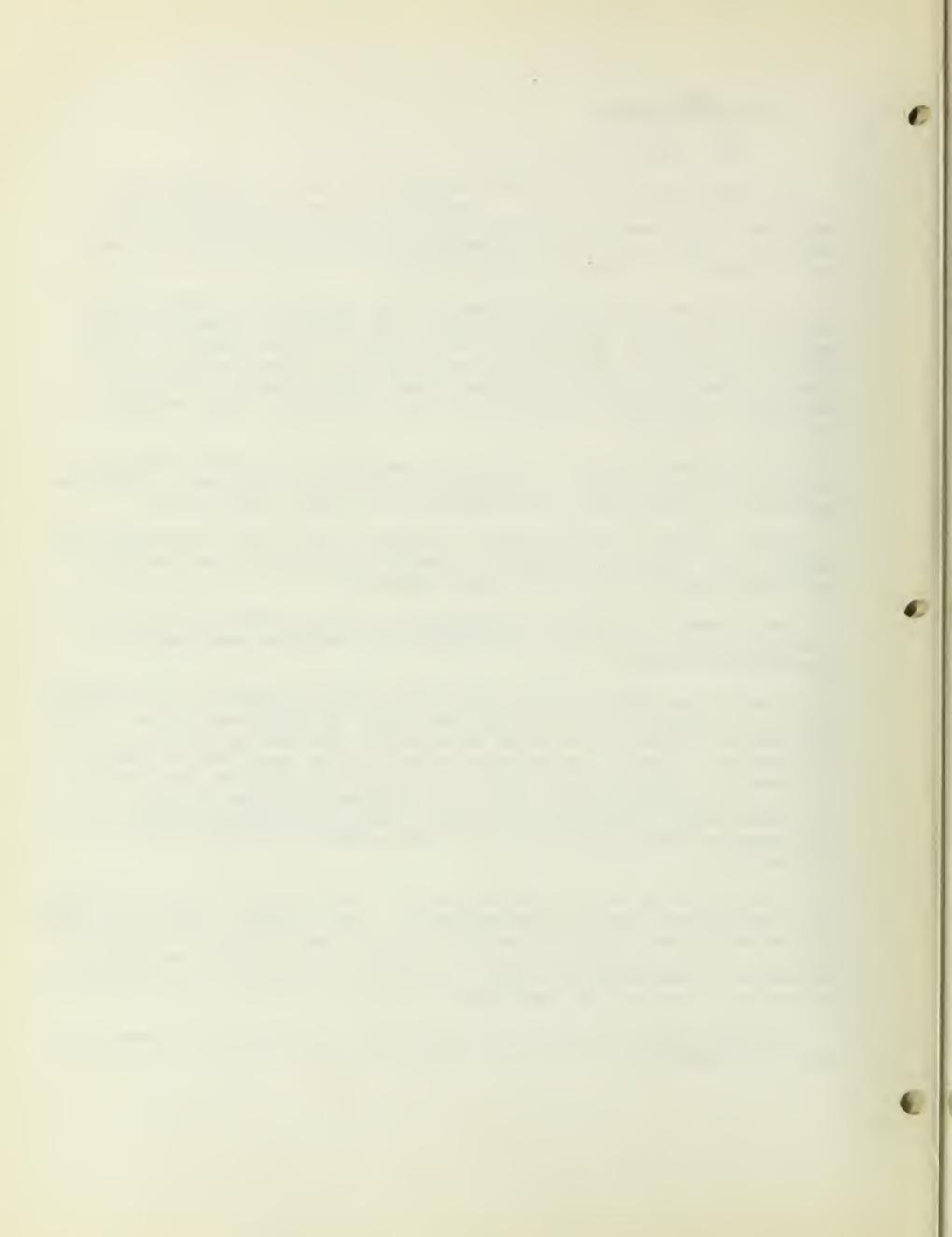
Major street reconstruction contracts let by the Department of Public Works result in numerous damage occurrences, and require continuous surveillance and investigation.

Water main and service replacement and relocation projects require contact with many individuals and require many hours of investigative work.

At present the junior of the two Claims Investigators in the Claims Section averages about 20 hours per month of overtime in the field (in four counties) because of after-hour, weekend or holiday occurrences. These are increasing and can be expected to further increase in frequency and magnitude due to the age of our system (some mains are more than 100 years old) and because of the increased heavy construction in San Francisco (such as BARTD) and in other Bay Area counties where departmental operations are conducted.

The volume of work required of the Claims Section is now beyond the capacity of the two investigators. As a result, other employees (often at higher cost) are being used more and more because of the backlog of work and because we must respond to a claim or damage situation immediately in order to obtain information and data before evidence is removed or destroyed.

One additional Claims Investigator to handle the increased workload is essential.



## 6. MAINTENANCE OF EQUIPMENT

### New Employments

- 1 - 7237 Maintenance Machinist  
Foreman
- 2 - 7313 Automotive Machinist

The Machine Shop at the Corporation Yard of the Water Department in San Francisco presently has six (6) permanent Maintenance Machinists. They are under the direct supervision of the Superintendent of Shops and Equipment. He cannot properly supervise work in this shop and give close attention to his other duties, including the responsibility for an Auto Shop (8 employees and a foreman), a Meter Shop (8 employees and a foreman), a Welding Shop (2 employees), a Pattern Shop (1 employee), a Pumping Plant (5 employees and a foreman), and 2 roving stationary engineers.

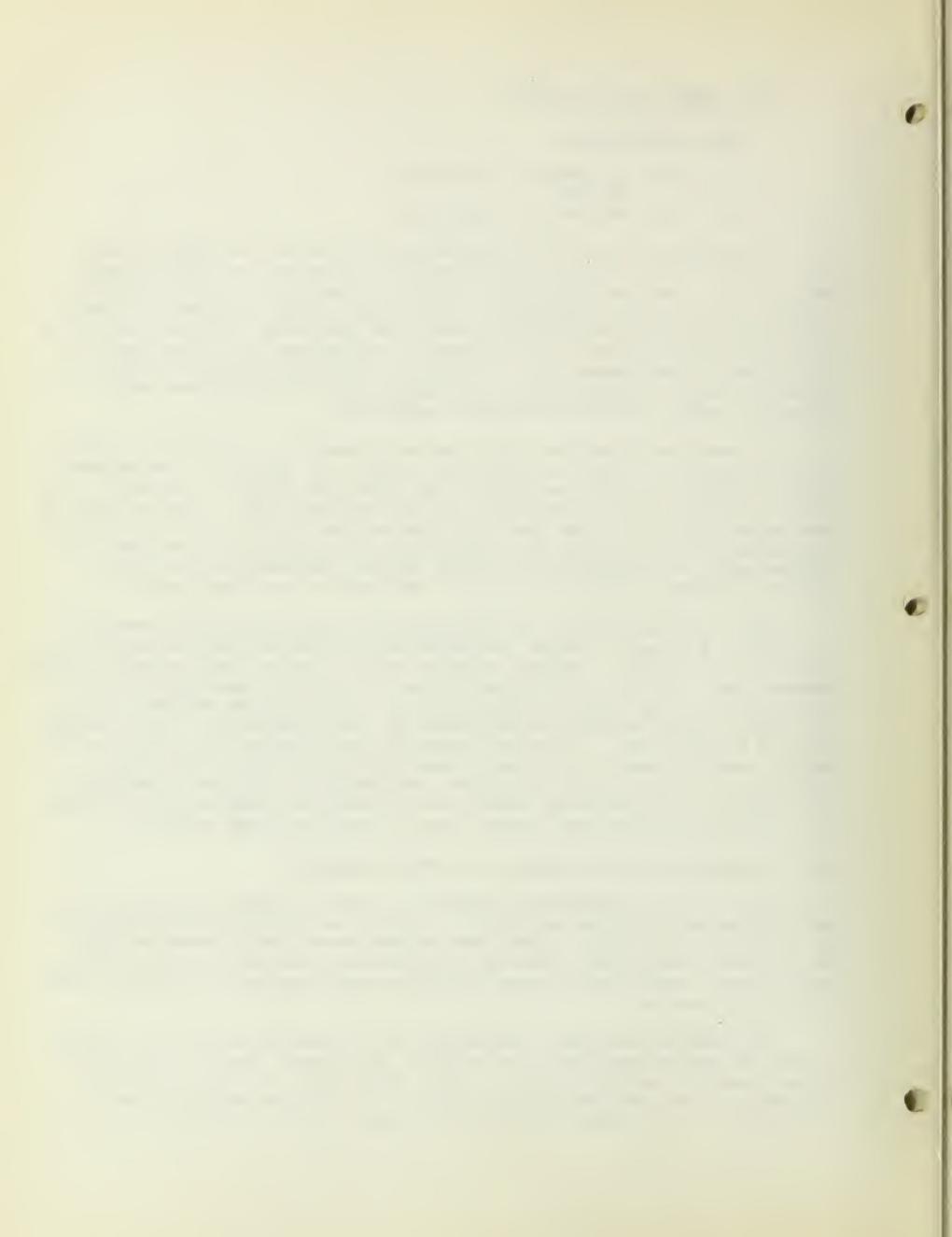
On numerous occasions, the Superintendent is required to make field inspection trips to determine extent of repairs or maintenance and to conduct routine business away from his office. In his absence there is no supervision in the Machine Shop. Supervision is even more difficult when the Maintenance Machinists are in the field maintaining or repairing any of our 48 pump units, 14 fixed air compressors, or thousands of large valves, regulators, or other mechanical appurtenances scattered throughout San Francisco.

With the curtailment of manufacturing previously performed in our shops, a greater amount of previously deferred outside maintenance is being done. Proper repairs and efficient work require close supervision. All of this supervision must now be performed by the Superintendent of Shops and Equipment. He should be relieved of this duty (which should be performed by the appropriate level intermediate supervisor). This will provide required additional time for better overall control of operations within the shops complex, planning of various work programs, and periodic personal progress. The addition of a working Maintenance Machinist Foreman will accomplish these purposes and insure proper work and cost control.

### One (1) Automotive Machinist - Alameda Division

There are no permanent personnel in the Alameda Division for automotive maintenance and repair. This has proved costly because of limited or deferred repair and maintenance, and a greater loss in vehicle "dead time" because of persistent malfunctioning which, in the end, necessitated more extensive maintenance and repair than originally needed.

The Alameda Division presently has 23 trucks and cars, several pieces of self-propelled road grading equipment, and various other large gasoline-powered units. Also, there are 98 other items of equipment, such as chain saws, pumps, etc., which require the attention of a skilled mechanic for proper maintenance and repair.



In addition, varying numbers of departmental vehicles, operating within the Alameda Division, are garaged from time to time at Sunol and require maintenance and repair.

During June of 1965, in order to reduce overall operating and equipment repair costs, it was necessary to employ a temporary Automotive Machinist. Since that time, the preventive maintenance and repairs accomplished have resulted in greater operational efficiency and a lowering of costs. Funds for this employment are not directly budgeted, however, and essential needs in other work programs may force discontinuance of this temporary employment.

Although major repairs will still be performed in San Francisco, experience during the past two years has shown that a permanent Automotive Machinist is needed in the Alameda Division for proper preventive maintenance and minor repairs of automotive and other equipment.

One (1) Automotive Machinist - Peninsula Division

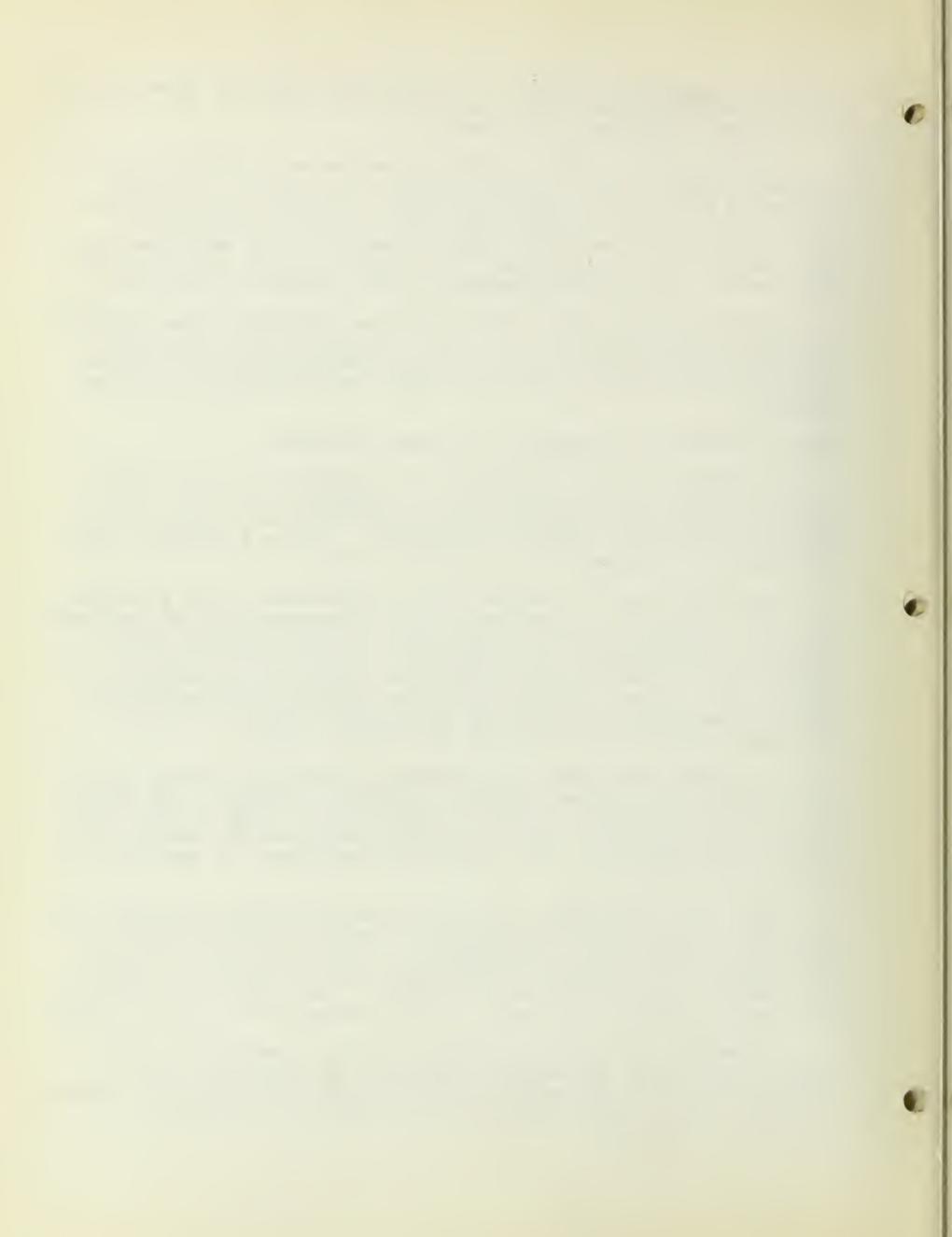
In addition to its own automotive equipment, the Peninsula Division Auto Shop performs vehicle maintenance and repair work for the Purification Division and the Construction Section of the Engineering Division (based in Millbrae). It has a combined workload beyond the capacity of its present crew.

There are over 90 vehicles under maintenance at the Millbrae Shop. In addition to this, repair and maintenance work is performed on a large quantity and variety of water purification equipment, portable and stationary air compressors, generators and pumps, marine inboard and outboard motors, arc welders, air and electric tools, and a variety of road and garden machinery and equipment. The combined total of mobile and stationary equipment reached a total of approximately 300 units in December 1967.

At present there are two Automotive Machinists working full time in the Auto Shop and handle emergency repairs in the field. An Automotive Machinist Foreman is working full time on shop supervision, work planning, parts accounting and ordering, records of repairs and lubrication, and instructing employees in operation of vehicles and equipment.

With this work force, it is impossible to perform the services required on this amount of equipment. An essential program of periodic inspection and maintenance to insure efficient, trouble-free operations is likewise impossible, and only the day to day most serious requirements can be handled. As a result the backlog constantly increases and work is being deferred to a serious degree.

To reduce the backlog, provide for timely maintenance and repair, and enable the Peninsula Division to establish a co-ordinated work and maintenance schedule that will provide for more efficient and economic operations, an additional Automotive Machinist is required.



## 7. LEAK DETECTION AND LOCATION OF UNDERGROUND FACILITIES

### New Employments

- 2 - 6318 Construction Inspector
- 2 - 7514 General Laborer

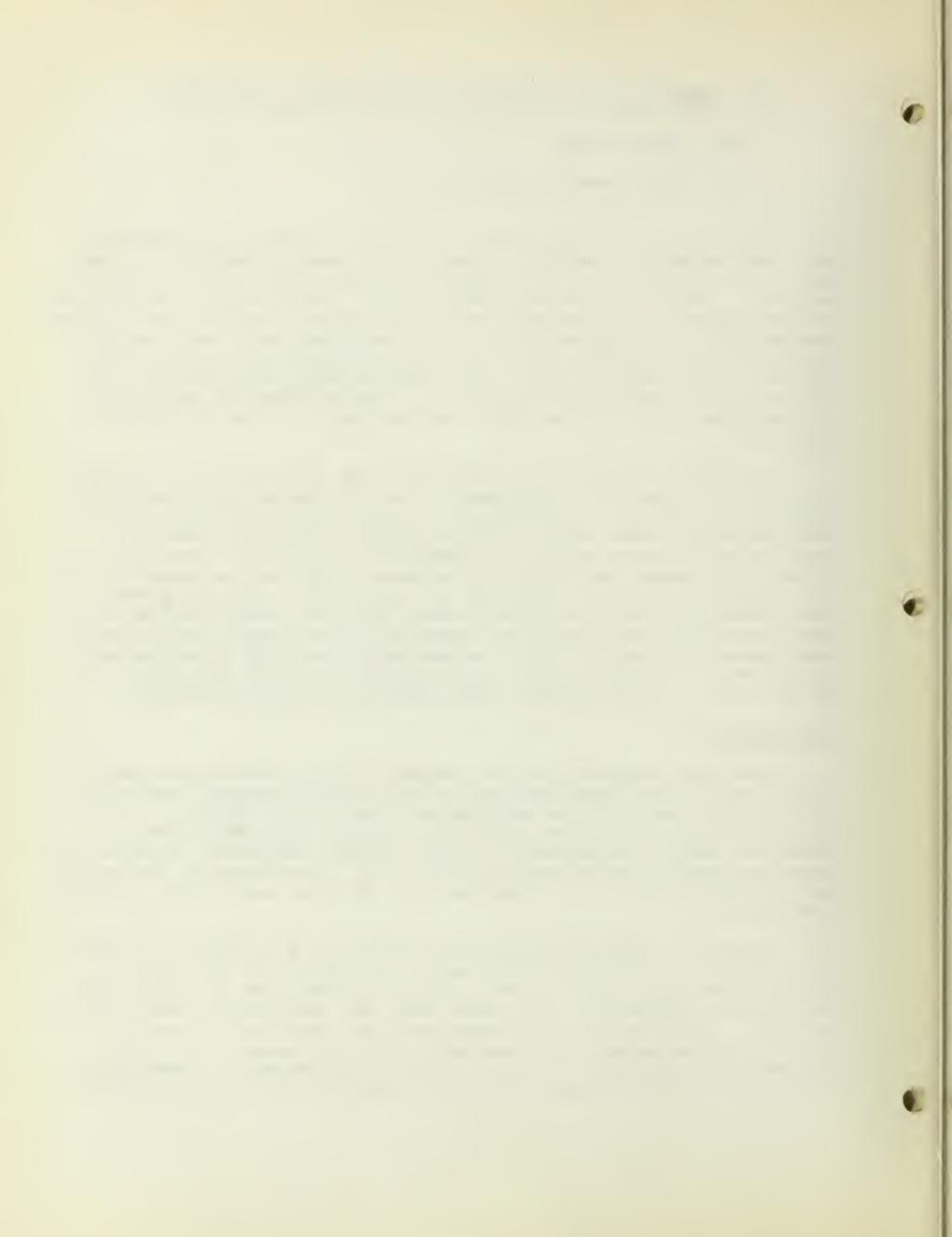
The classes of employment and the work methods necessary for both leak detection and pipe location are nearly identical. Leak detection normally cannot be undertaken until the pipe has been located. Locating pipes and marking their location is also necessary in connection with Department of Public Works' projects and private excavations to determine the possible need for water main and/or service pipe relocation, and to prevent damage during construction. Because of the similarities, the programs have been combined for the purpose of employment requests. (A more detailed explanation of the three work programs will be found below under appropriate headings.)

Since the inception of electronic leak detection in the early 1940's, this Department has been forced to gradually increase the work crews needed for leak detection and seepage investigation at the expense of other work. More recently, a greater need for locating underground piping in connection with D.P.W. sewer and street improvement contracts and because of private excavation work has required even more diversion of work crews. This manpower has been taken from other necessary work, such as rehabilitation of meter batteries, adjustment of services in bus stops and driveways, abandonment of obsolete services and mains, and the locating and adjustment of appurtenances and mains where records are faulty or do not exist. Such programs have suffered serious deferment.

### Leak Detection

When water appears on the surface of City streets and sidewalks, and in many basements and other private property areas, it is first presumed to have originated from S.F.W.D. piping. While this proves to be a false assumption in many instances, leak detection must be performed in every seepage complaint in order to avoid negligence and subsequent liability. The cause of the seepage must be determined as a precaution for the City and County against damage suits.

Finding a leak on buried water piping is a relatively simple matter when the escaping water comes to the surface in close proximity to the pipe. In many cases, however, due to hills and underground conditions, the water does not immediately come to the surface. It finds its way underground and may show up several blocks away as seepage in basements and other areas. In such situations, a greater or lesser amount of electronic investigation, digging of prospect holes, taking of water samples, analysis of



such samples, dyeing of sewers, and similar work is necessary frequently in coordination with other City departments.

Although the Service Renewal Program and the Pitometer Survey are helping to alleviate the leakage problem, the need for specialized electronic detection is steadily increasing. This is due in part to the Department of Public Works' Street Reconstruction Program under specifications requiring better pavement than was used in past years. These new streets of heavier pavement prevent leakage from rising directly to the surface. Also, there are requests for more and more service concerning leaks and seepage, and this has resulted in additional demands on manpower.

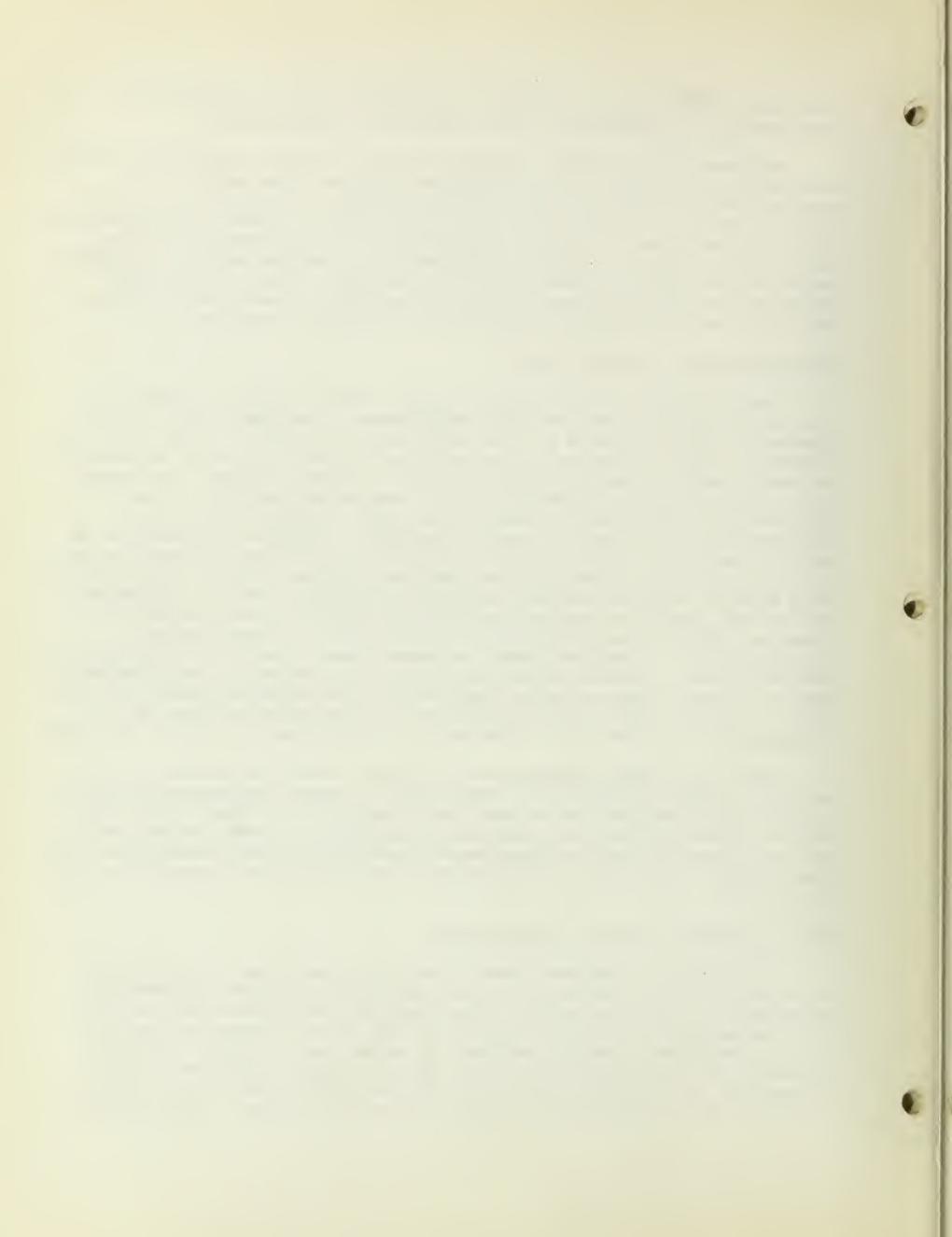
#### Pipe Location - Public Works

Public works construction projects have a direct effect on the mains and services of this Department. Section 104.3 of the Standard Specifications of the Department of Public Works makes it mandatory that the Water Department pay substantial sums of money to public works contractors to support and work around its mains and services during construction of sewers and streets. One alternative is to remove water mains and services during such construction but this is rarely possible. Another alternative is to lay temporary mains and services outside the construction area and then shut off installations within the area during construction. This method involves either complete abandonment of the affected piping and complete replacement during various stages of construction, or removal and replacement of various sections during construction. In either case, we must later remove the temporary installations. Either alternative is time consuming, non-productive and is normally more costly than making the payments under Section 104.3. Legality for such charges by contractors has been established by City Attorney ruling and is recognized by City Controller.

Prior to final preparation of public works contracts, it is essential that the location and depth of pipes and appurtenances be ascertained and plotted on contract drawings. In the event that D.P.W. cannot adjust its work to accommodate existing water mains and services, the Water Department must adjust and rehabilitate its facilities. The volume of this work has multiplied geometrically since 1961.

#### Pipe Location - Private Excavation

A California Supreme Court decision (confirmed by the City Attorney) makes it essential that mains and services adjacent to excavations within property lines receive protective and preventive measures by a water utility at the time it becomes aware of such excavation. Future failure of water mains and/or services adjacent to such properties, together with any resultant water damage to the property of others, becomes the liability of such utility unless protective measures have been taken. The location



of water mains and services must be adequately established. The location and repair of any and all leaks must be accomplished. Deteriorated piping must be replaced. If the mains and water services are in dangerous locations with respect to the excavation, they must be adjusted or relocated. Only the cost of certain relocations is the responsibility of the excavator.

#### Present Work Force

In 1943, the total manpower used for leak detection was:

- 1 - Construction Inspector
- 1 - Compressor Operator (now Operating Engineer, Universal)
- 1 - Laborer

This three-man crew was assigned on an intermittent basis from other programs.

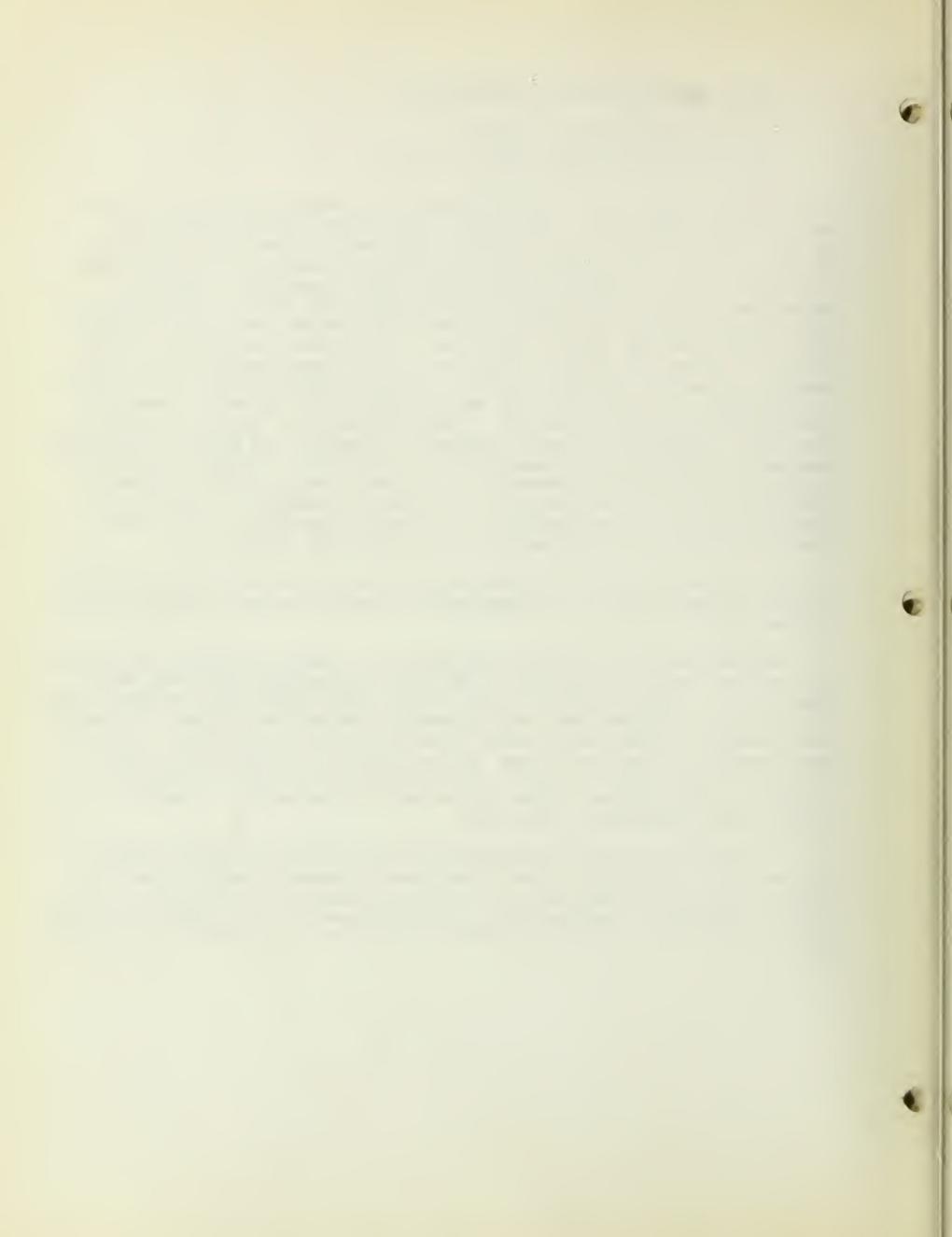
The need for manpower has increased gradually through the years to where, in 1968, the daily average manpower used for the three categories is:

- 1 - 6318 Construction Inspector
- 1 - 7250 Utility Foreman
- 1 - 7328 Operating Engineer, Universal
- 3 - 7388 Utility Plumbers
- 3 - 7462 Utility Plumber Helpers
- 3 - 7514 General Laborers

A search of records reveals that since the inception of electronic leak detection no employments have been budgeted specifically for this purpose. In 1940 the workload required a work force of three employees. At present a force of twelve employees is required. The additional nine have been diverted from other work programs.

#### Required Work Force

Four (4) additional employees are requested for leak detection, pipe location - Public Works, and pipe location - private excavations, since it is anticipated that changes in operations based upon the granting of employments elsewhere, as well as increased performance of certain types of work by contract, will allow sufficient manpower to operate satisfactorily.

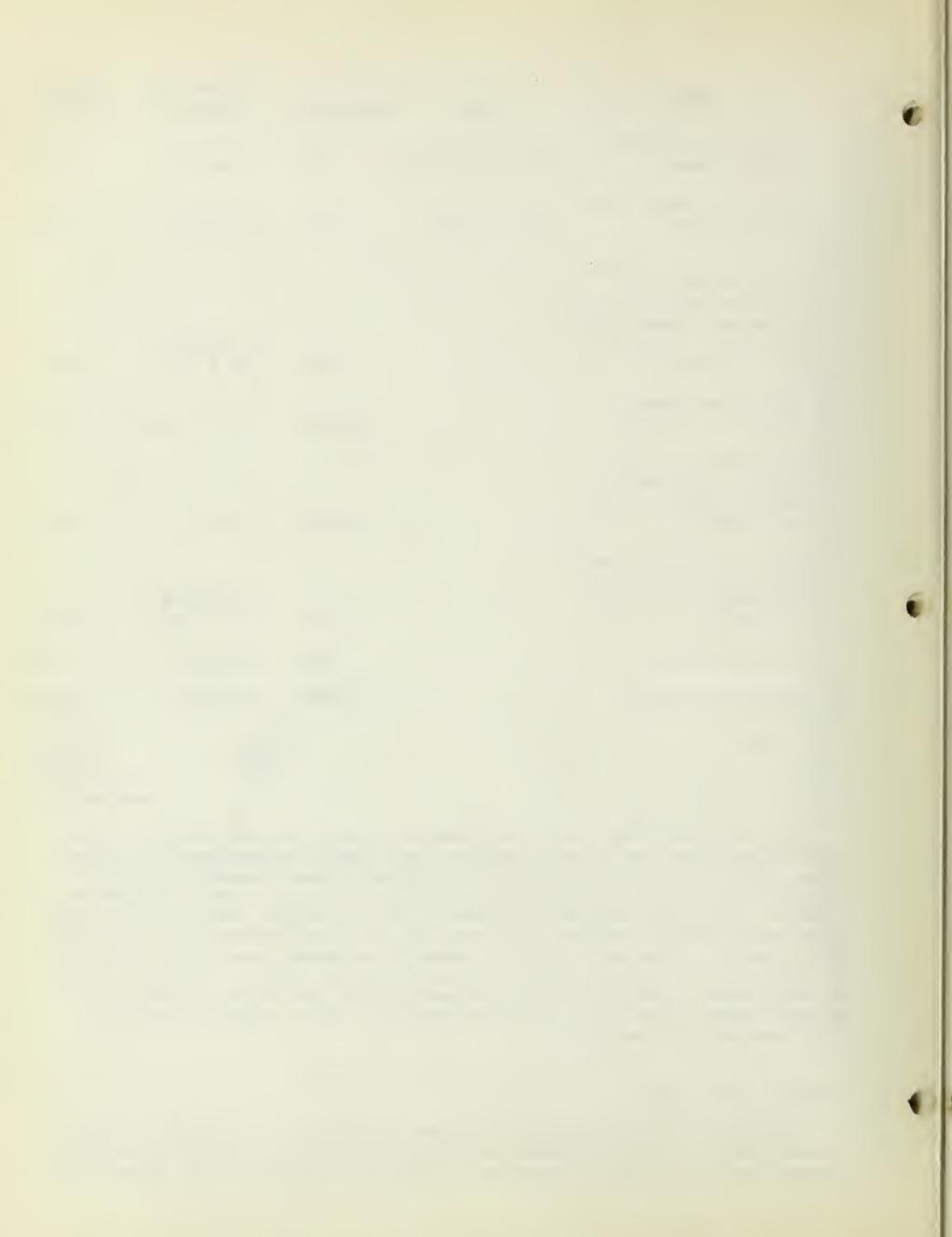


	<u>Size</u>	<u>Quantity</u>	<u>Inspection Interval</u>	<u>Annual Total</u>
1. Large Feeder Main Gate Valves	20" and Over	160	3 months	640
2. Smaller Feeder Main Gate Valves	12" to 16"	1,500	12 months	1,500
3. Distribution Main Gate Valves (in high density areas); interval determined by size, location, and purpose.	2" to 8"	4,000	6 months to 1 year	6,000
4. All other Gate Valves in Mains		7,000	1 to 2 years	4,500
5. Blowoff or Drain Valves (Interval determined by size and purpose)		2,500	1 year	2,500
6. Air Valves (in relation to importance of main). Size is secondary.		1,500	3 months to 2 years	2,000
7. Check Valves		100	2 years	50
8. Service Valves		2,500	5 years	500
	Total		17,690	
	Say:		18,000	
	Or :		1,500	
			per month	

If the schedules are to be reasonably met, approximately 1,500 valves per month or 75 per working day require operation and inspection. It has been determined on a basis of past experience that approximately 20% of the valves inspected require some maintenance or repair. The work necessary varies from the simple loosening of the gate valve and air valve box covers to the replacement of most of the valve parts. The most frequent repairs necessary are the resetting of valve box to proper street grade to avoid damage to vehicles due to depressed valve box covers, repacking of the valve spindle to prevent water leakage, and replacement of valve spindles because they are bent or broken.

#### Present Work Force

Only one (1) 7250 Utility Foreman (Gatemen) is presently budgeted specifically for the purpose of valve inspection. He is operating, inspecting and freeing occasional covers of gate and air valve boxes



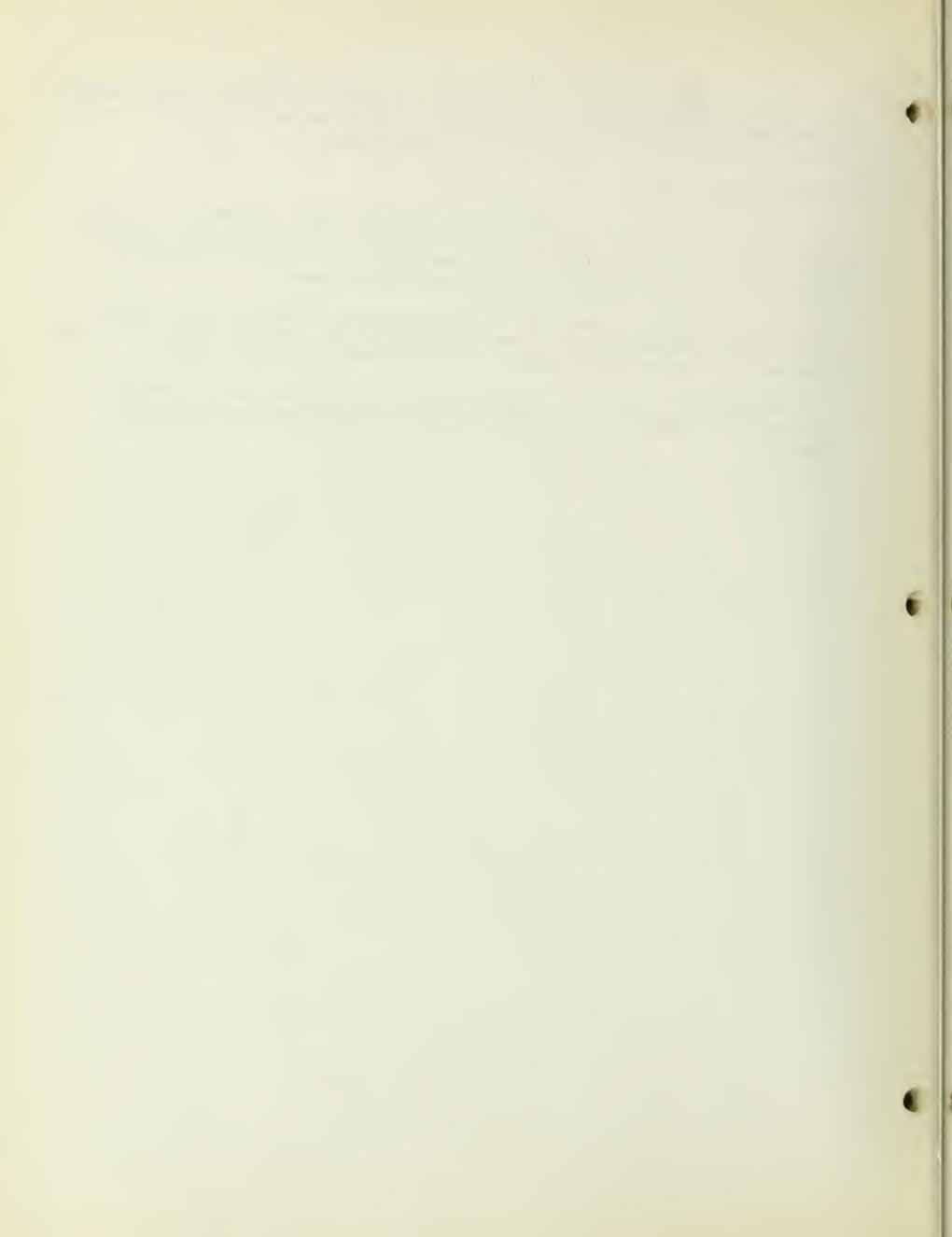
at a rate of approximately 25 per day. Approximately 25 additional valves are operated and inspected in a like manner by regular work crews in the course of their daily operations.

Required Work Force

It is planned to use the Utility Plumber for inspection of the additional 25 valves daily (to meet the 75 total required) and for the more serious valve and air valve repairs under the general supervision of the existing 7250 Utility Foreman.

It is planned to use the two (2) Utility Plumber Helpers to assist the Plumber and for the maintenance of smaller, less critical gate and air valves, and for the replacement of valve boxes.

The two (2) General Laborers will be used for the excavation and backfill necessary to accomplish the various box and valve repairs.



9. MAINTENANCE OF GROUNDS AND LANDSCAPED AREAS

New Employment

1 - 3416 Gardener

One Gardener (Alameda Division)

Prior to 1940 the Alameda Division utilized four men on gardening duties in and around the Division headquarters at Sunol and the Water Temple grounds. Since that time, and with about 50% more plants and shrubs, the force was reduced to one permanent Gardener who has been handling the needs of the following planted areas:

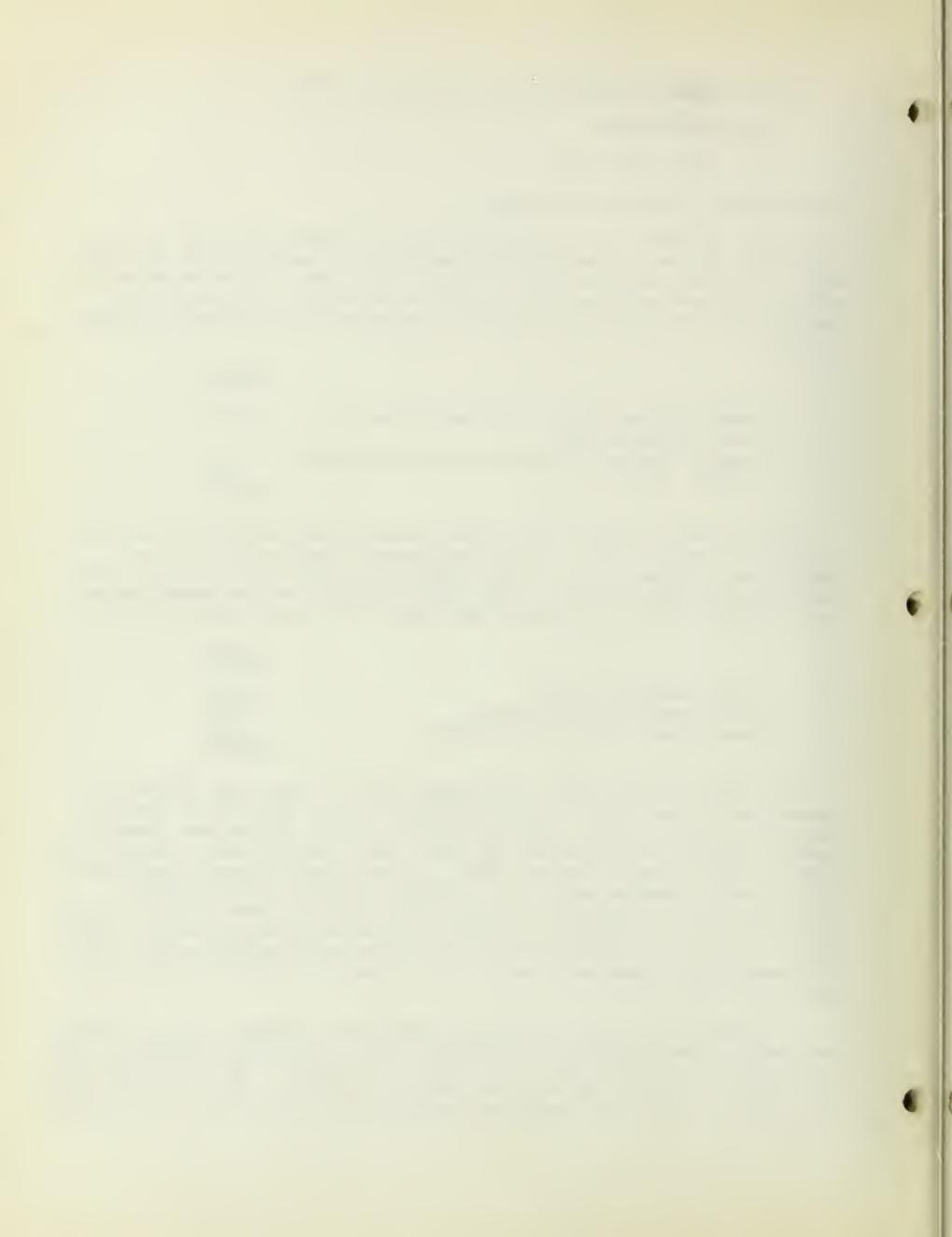
	<u>Acres</u>
Sunol Valley Water Treatment Plant	2-1/2
Sunol Headquarters	3
Temple Avenue (including entrance gates)	2/3
Temple Grounds	<u>1/4</u>
	<u>6-1/4</u>

By the end of this fiscal year three other facilities will be added in Alameda County. Plans and specifications for these facilities include landscaping (approved by the San Francisco Art and Planning Commissions) which will be added to the above garden-ing workload. The facilities and number of acres involved are:

	<u>Acres</u>
Sunol Pumping Plant	1-2/3
San Antonio Pump Station	1-1/4
San Antonio Chlorine Station	<u>2/3</u>
	<u>3-7/12</u>

The Sunol Valley Water Treatment Plant, which was placed in operation during 1966, contains 18,700 square feet of landscaped area plus 31,000 square feet of native plants which were planted under contract at a cost of \$30,000. This entire area consists of lawns, 1,500 lineal feet of trees, rough grass, flowers and shrubs, all of which require watering, cutting, pruning, fertilizing, cultivating and weeding. In addition there are some 40,000 square feet (1 acre) of unplanted areas which require ground cover. Until this is done the blowing of dust and dirt onto equipment and into the open water treatment basins will remain a serious problem that must be eliminated.

In order to properly maintain the Water Treatment Plant grounds and avoid deterioration, one Laborer was temporarily assigned to do necessary gardening work. The extent and variety of gardening tasks that exist and must be done in the near future at this facility now show that a full time permanent Gardener is needed for this facility alone.

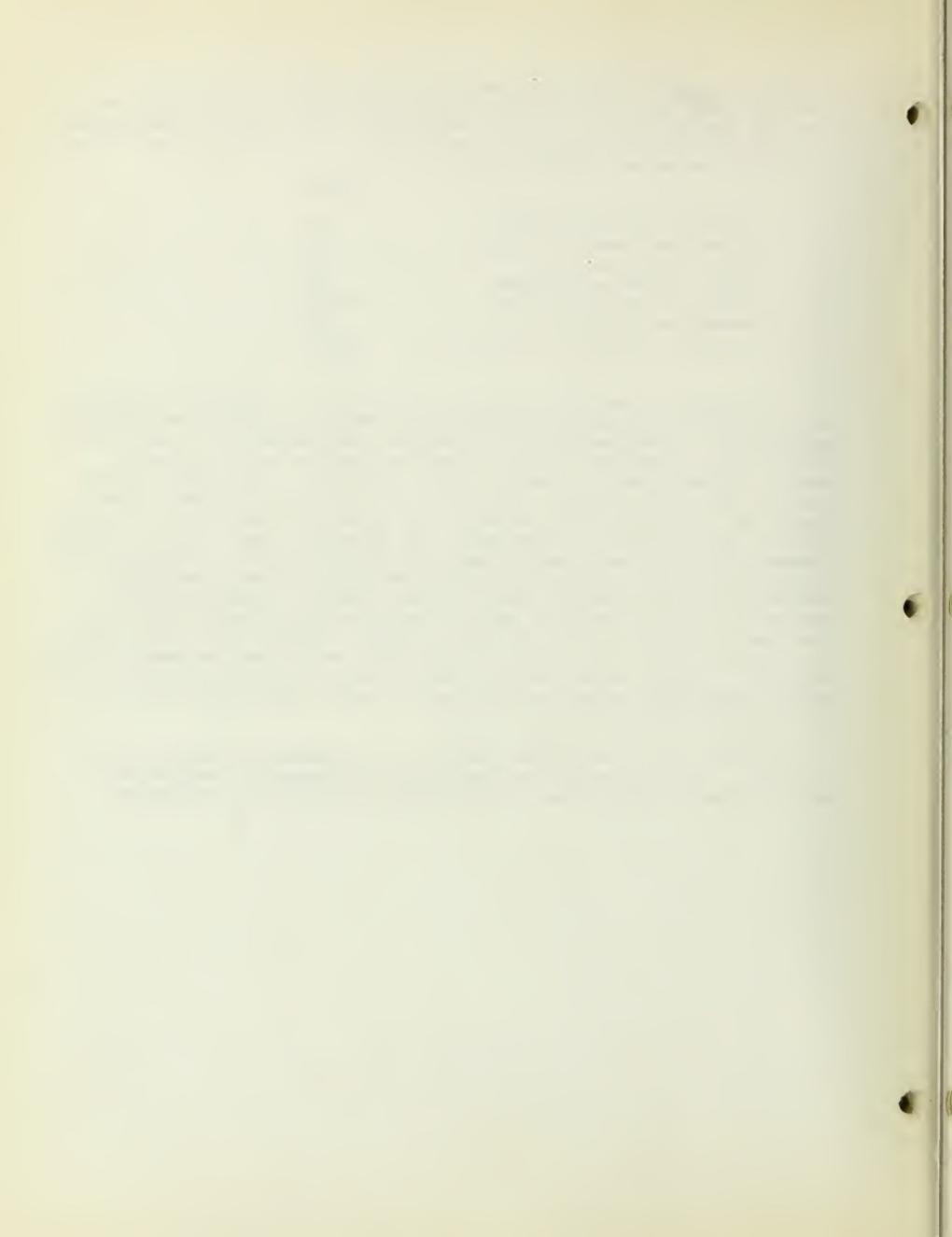


In addition to the above old and new facilities, seven other installations are in existence (either now fenced or will be as time and funds permit to avoid vandalism) that require landscaping in order to make a presentable appearance of our facilities. These seven and the acres involved are:

	<u>Acres</u>
Irvington Meter Houses	1/4
Calaveras Road Gate Yard	3/4
Sunol Gate Yard	1/4
Sunol Chlorine Station	1/4
Irvington Pump Station	1-1/2
Newark Gate Yard	1/2
Irvington Portal Installation	<u>1-1/2</u>
	5

In total, the above facilities involve 10 acres of presently or soon to be landscaped grounds and 5 acres of lands that require landscaping. Studies made of gardening requirements in public and private jurisdictions revealed that one man, using "Tri-plex" mowers, is required for each 22 acres of lawns. For other landscaping, area of coverage varies due to the varieties and types of plants and their related frequency for pruning, cultivating, etc. However, the average is less than two acres per man. On this basis a permanent force of five to seven Gardeners should be used in the Alameda Division to maintain landscaped areas under acceptable standards. It is obvious that the one present Gardener is not maintaining public park or private property standards, that only what can be done from day to day is being accomplished, and that a great many things that should be done are now being neglected and deferred. It is impossible for the present Gardener to maintain the former landscaped areas as well as the newly added areas at the Sunol Valley Water Treatment Plant.

Although there is justification for a gardening force up to four men, only one additional permanent Gardener is requested to maintain landscaped areas within minimum acceptable standards.



CITY DISTRIBUTION DIVISION  
1968- 1969 Budget Request

Item 139 - GARDENERS

New Permanent Positions:

Two (2) 3416 Gardeners

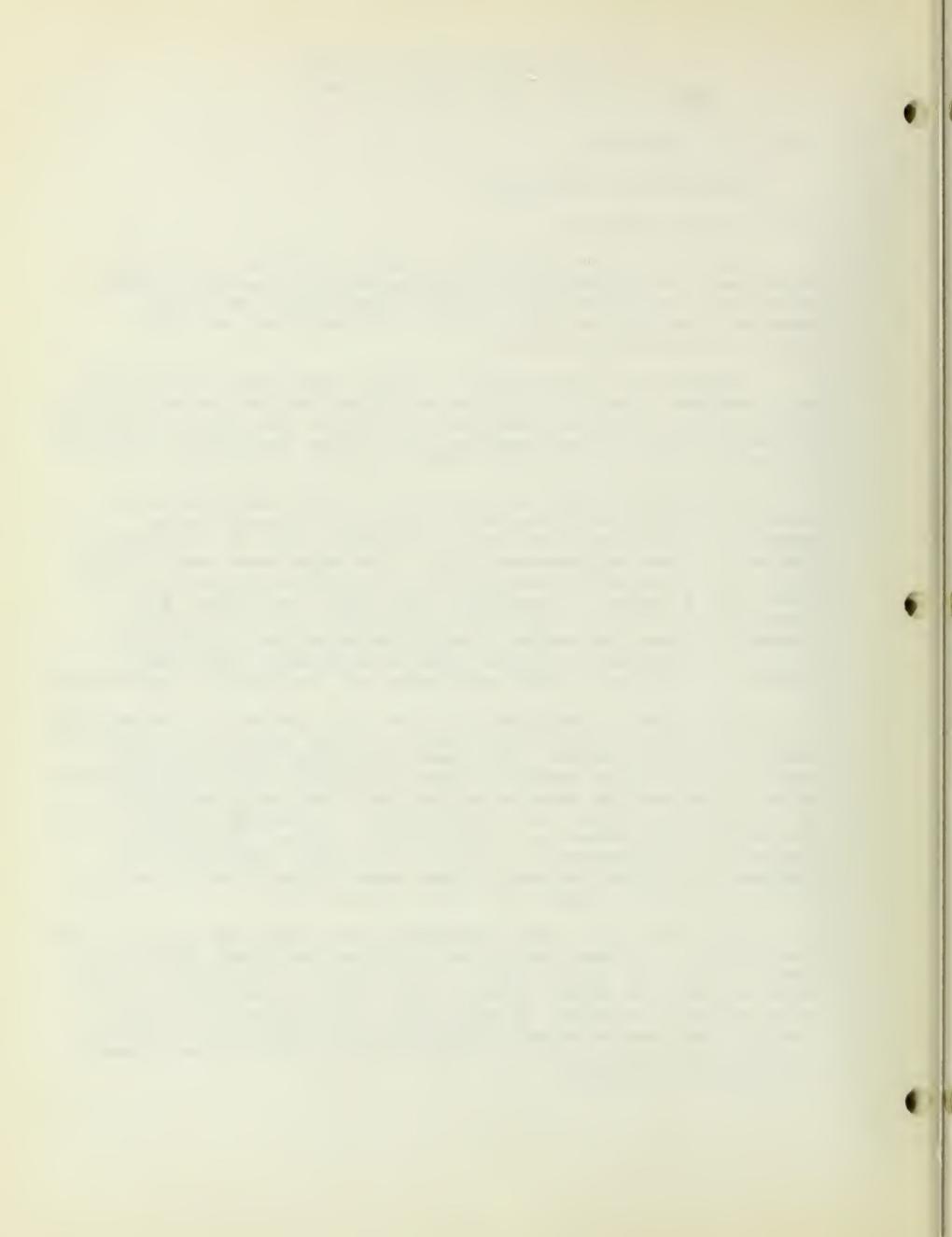
Within the City and County of San Francisco, the Water Department is responsible for approximately 63 acres of land, varying in size from over 8 acres in one parcel at Sunset Reservoir to lots as small as 25 x 100 feet over our pipe lines in Visitacion Valley.

Taxpayers and our customers demand reasonable cleanliness as a minimum. Public Utilities policy as well as overall City and County policy requires landscaping of Water Department properties in keeping with the surrounding area and to the minimum required to protect the potable water supply and our properties.

In the years prior to World War II, the City grew at a modest rate and the consequent demand for increased water facilities likewise increased at a modest rate, at relatively low capital and maintenance costs. The Department was able to maintain a reasonable landscaping program due, in part, to the fact that a number of reservoirs and other facilities were located in isolated, undeveloped sections of the City where landscaping was not needed. During this period, a force of seven (7) Gardeners equipped with hand-operated tools satisfactorily performed needed gardening and landscaping requirements.

Just prior to World War II, the City grew at an accelerated pace and hitherto undeveloped areas rapidly became new industrial and residential tracts. Our plant facilities which formerly were in open fields suddenly became located in heavily populated urban areas and the need arose for gardening and landscaping to conform with their new surroundings. It became apparent that the existing Gardener work force was not able to cope with increasing requirements. During Fiscal Year 1946-1947, the Gardener force was increased from seven (7) to nine (9) and has remained at this figure up to the present time.

Since 1947, the Water Department has continued to expand its facilities. Fourteen major installations have been added with a total of 844,000 square feet or 19.4 acres of landscaped areas. With no increase in the Gardener force during the past 20 years, some essential cleanup, fireguarding, and erosion and rodent control has been deferred. Necessary landscaping and gardening is being deferred to an undesirable degree, and, in many cases, is completely stopped.



Item 139 - GARDENERS (Cont'd)

Much of our property is unsightly; dense underbrush constitutes an extreme fire hazard adjacent to private property; Department liability is greatly increased. The Department of Public Health has strongly suggested that beds of iceplant and other dense groundcover be kept thinned out to prevent nesting by rats, field mice, and other pests; complaints regarding which have been received from time to time.

Power lawn mowers were introduced, along with planting of various types of shrubs and plants requiring minimum amounts of attention. What little saving in time these methods afforded has been used for general low-grade maintenance and has had little effect in solving workload problems that are becoming more insurmountable with each passing year.

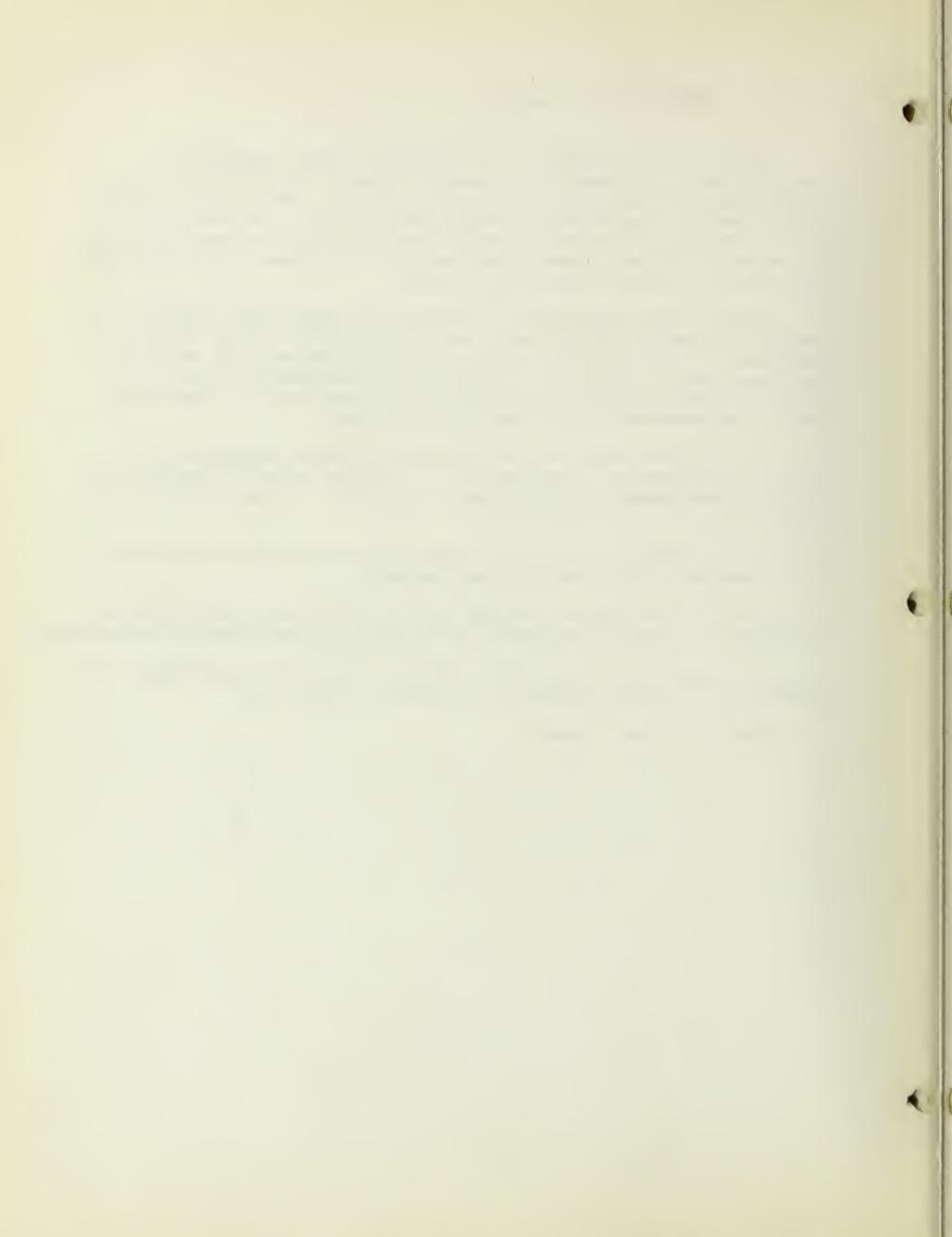
A study was made of the minimum manpower essential to proper maintenance of properties. Private industry methods in a large landscaped property were examined. A report concerning this matter is attached hereto.

Also attached hereto is a tabulation of properties within San Francisco which require maintenance.

Two (2) Gardeners are the minimum additional employments necessary to handle essential gardening and landscaping maintenance.

To properly perform their duties, these two Gardeners will need the following equipment included in Item 400:

Two (2) Power Mowers.



## GARDENING MANPOWER COMPARISON

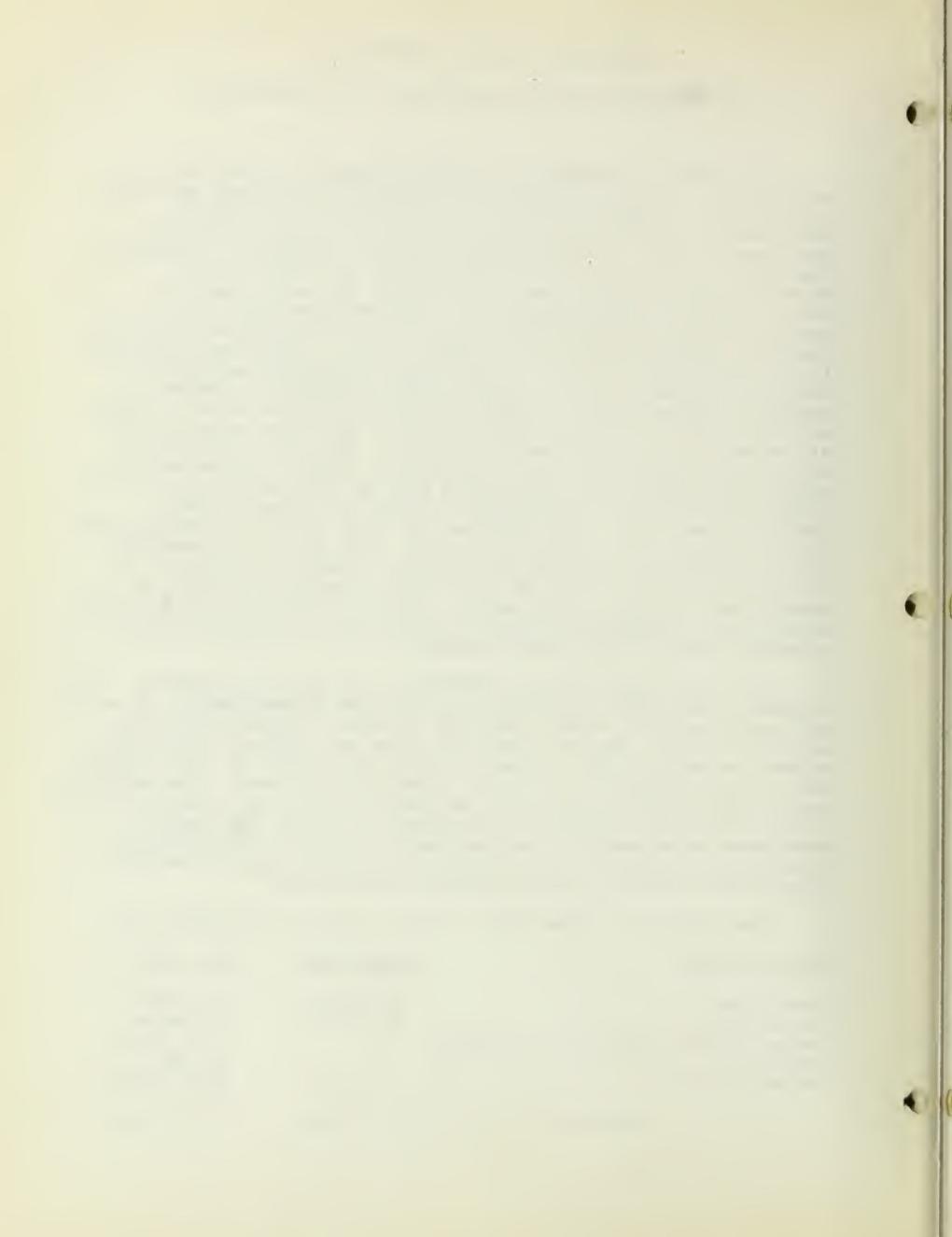
## SAN FRANCISCO WATER DEPARTMENT WITH "PARKMERCED"

In order to determine the effectiveness of existing manpower usage and work scheduling, including individual workload assignments, comparison with a large private landscaping development appeared necessary. Contact was made with the management of the "Parkmerced Residential Community" owned by the Metropolitan Life Insurance Company, to obtain data regarding any standards set and used in the maintenance of their extensive landscaped areas. It was found that such work is being performed under contract with a private landscaping and gardening firm (Joe Delgado, Inc.,) operating primarily in the Los Angeles area. Contact with the local manager of that firm revealed that the Parkmerced Residential Community contains approximately 90 acres of lawns plus 30 acres of trees and shrubs for a total of approximately 120 acres practically all of which is flat ground. This area requires a permanent year-around work force of 25 Gardeners. Four of these men are habitually assigned to large area mowing jobs using power mowers of which two are operator-seated "Tri-Plex" models. The remaining 21 men are assigned to areas of approximately two square blocks each. Within his area, each man is responsible for all pruning, planting, cultivation, general clean-up and watering; the first hour of each day is spent on picking up debris and general area clean-up, and an average of 20% of their total time throughout the year is utilized on watering using manually operated sprinkler systems.

The City Distribution Division of the Water Department presently has under cultivation a total of approximately 10 acres of lawn (mostly on steep reservoir slopes), approximately 12 acres of shrubs, approximately 26 acres of iceplant (including a small amount of ivy), together with 14.6 acres of paths, parks and grounds planted to trees or other ground cover. The numerous individual plots of each type of ground cover vary enormously in area, are widely dispersed throughout the City, and require considerable movement of men and materials over long distances each day. Travel time is estimated to require approximately 10% of each employee's normal daily working time.

The following comparisons result from the preceding data:

<u>Type of Cover</u>	<u>Parkmerced</u>	<u>CDD, SFWD</u>
Lawn area	90 acres	10 acres
Shrub area	30 acres	12 acres
Hedge (16,140 lin ft x 3 ft wide)		1.1 acres
Iceplant		26 acres
Parks & Grounds	_____	<u>14.6 acres</u>
Totals:	120 acres	63.7 acres



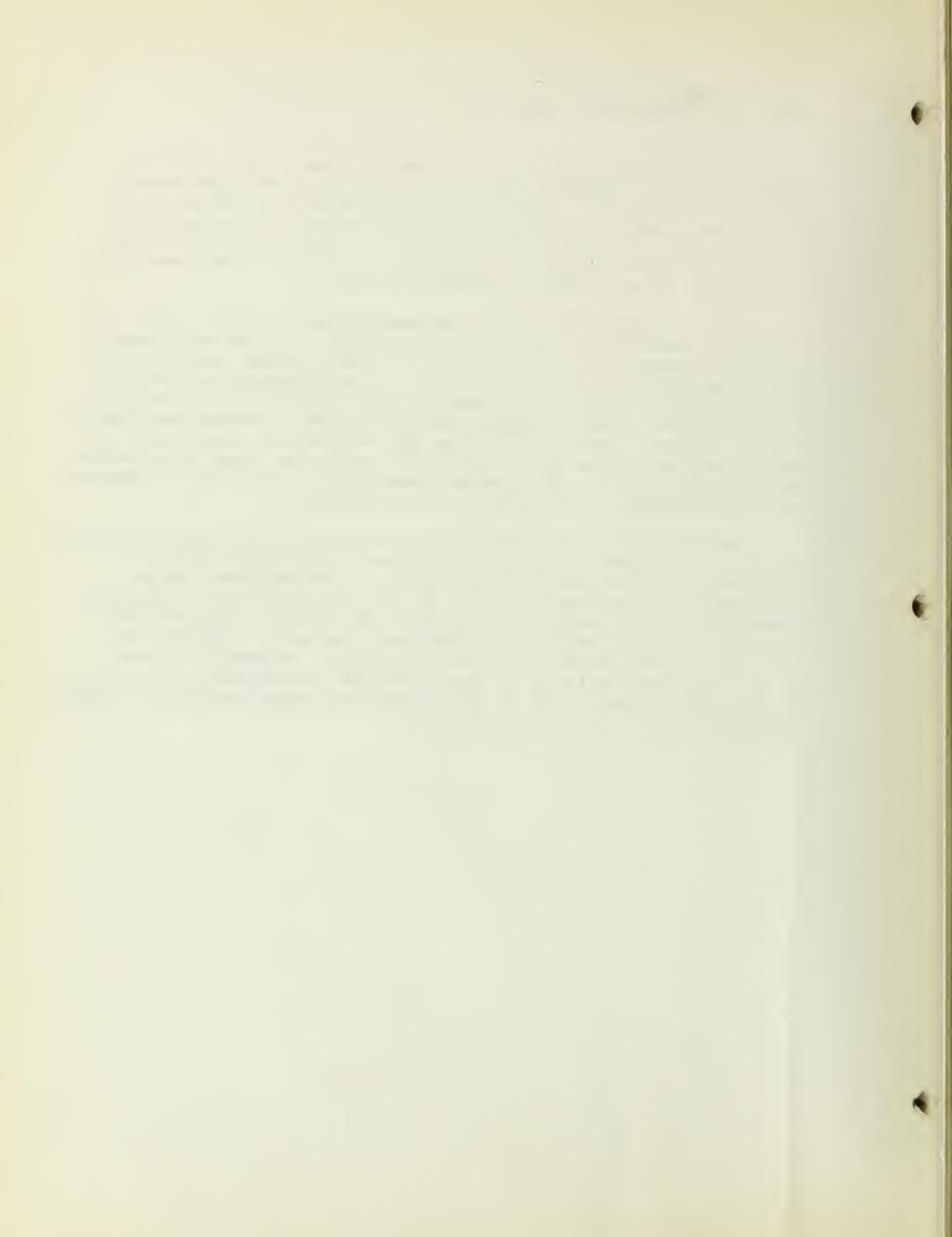
(4)

Item 139 - GARDENERS (Cont'd)

For 90 acres of lawns, Parkmerced uses 4 men. This is within a flat, compact area and operator-seated type mowers are used primarily. For 10 acres of lawns, the Water Department uses 3 men. One half or 5 acres of this area consists of reservoir slopes up to 1:2 ratio on which operator-seated mowers are impractical. In addition, this 10 acres consists of various sized, widely scattered plots.

For 30 acres of shrubs, Parkmerced uses 21 men. This is a compact area with little or no sidewalk or path maintenance. For 53.7 acres of shrubs, iceplant, hedge, parks and grounds, the Water Department uses 5 men. The maintenance standard of these areas is well below "acceptable" due to lack of manpower. By comparison, this is borne out by the Water Department having almost one and two-thirds times the Parkmerced shrub area but only one-fourth the men. While the degree of care areas other than shrubs require is somewhat less, the disparity in manpower on a man-for-man comparison is self-evident.

Two other factors enter into the overall Gardener workload: First, on frequent occasions, routine and emergency work performed by the field forces involves the destruction or digging up of gardens or lawns on private property. In such cases, Gardeners must be dispatched to re-sod, replace loam, fertilize, plant seeds or shrubs and generally restore the plot of ground to its original condition. Secondly, other properties not included in the attached tabulation or in the above comparisons, such as hydropneumatic pump stations, require somewhat minor periodic attention.



S.F.W.D. PROPERTIES WITHIN THE CITY & COUNTY OF SAN FRANCISCO  
REQUIRING LANDSCAPING, GARDENING & OTHER GROUNDS MAINTENANCE

Note: Figures given are square feet except as indicated.

No.	<u>Installation Name</u>	<u>Year Built</u>	<u>Lawn Area</u>	<u>Shrub Area</u>	<u>Iceplant &amp; Ivy</u>	<u>Hedges (Lin. Feet)</u>	<u>Parks &amp; Grounds</u>
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Group No. 1: Landscaped (more or less) and cultivated to lawns, shrubs, trees, and including paths and bench areas.

1	Lombard Reservoir	9,900	30,000	4,800	4,000	40,000
2	Francisco Reservoir	35,000	7,200			14,800
3	College Hill Reservoir	4,800	1,100			80,000
4	Univ. Mound - So. Basin	1,700	250,000			
5	Potrero Heights Res.			18,500	5,100	17,400
6	Merced Manor Reservoir	200,000	10,000			7,000
7	Sunset Res. - No. Basin	162,000	21,000			
8	Stanford Heights Res.		72,000		1,900	
9	Old Sunset Pump Station	1,845	600			
10	Mun. Ry. - St. Francis Cir.	1,500	500			
Sub-Totals		416,745	392,400	23,300	11,000	159,200

Group No. 2: Properties improved by capital construction in which landscaping was constructed and for which manpower was not provided.

12	Lake Merced Pump Sta.	1953	39,140	30,450	1,240	460,000
13	Univ. Mound-No.Basin	1963	2,160	182,360		
14	Forest Hill Tanks	1926		1,030		
15	Sunset Res.-So.Basin	1960	14,290	160,300	(Deteriorating badly)	
	Balboa Reservoir	1962		215,250		
Sub-Totals		16,450	381,800	246,730	1,240	465,000

Group No. 3: Properties improved by capital construction in which landscaping was promised and for which manpower was not provided.

16	Sutro Reservoir	1954	2,140		3,900	35,000
17	Summit Reservoir	1954				
18	LaGrande Reservoir	1956	1,950			
19	Crocker Amazon Pump Station	1956	145			400
20	Palo Alto St. Pump Station	1958	460			
21	Forest Knolls Pump Station	1960				2,640
22	Forest Knolls Tank	1960				5,600
23	New Corporation Yard	1964	7,360	7,360		
30	McLaren Park Tanks	1967		130,680		
Sub-Totals		7,360	142,735		3,900	43,640

C

O

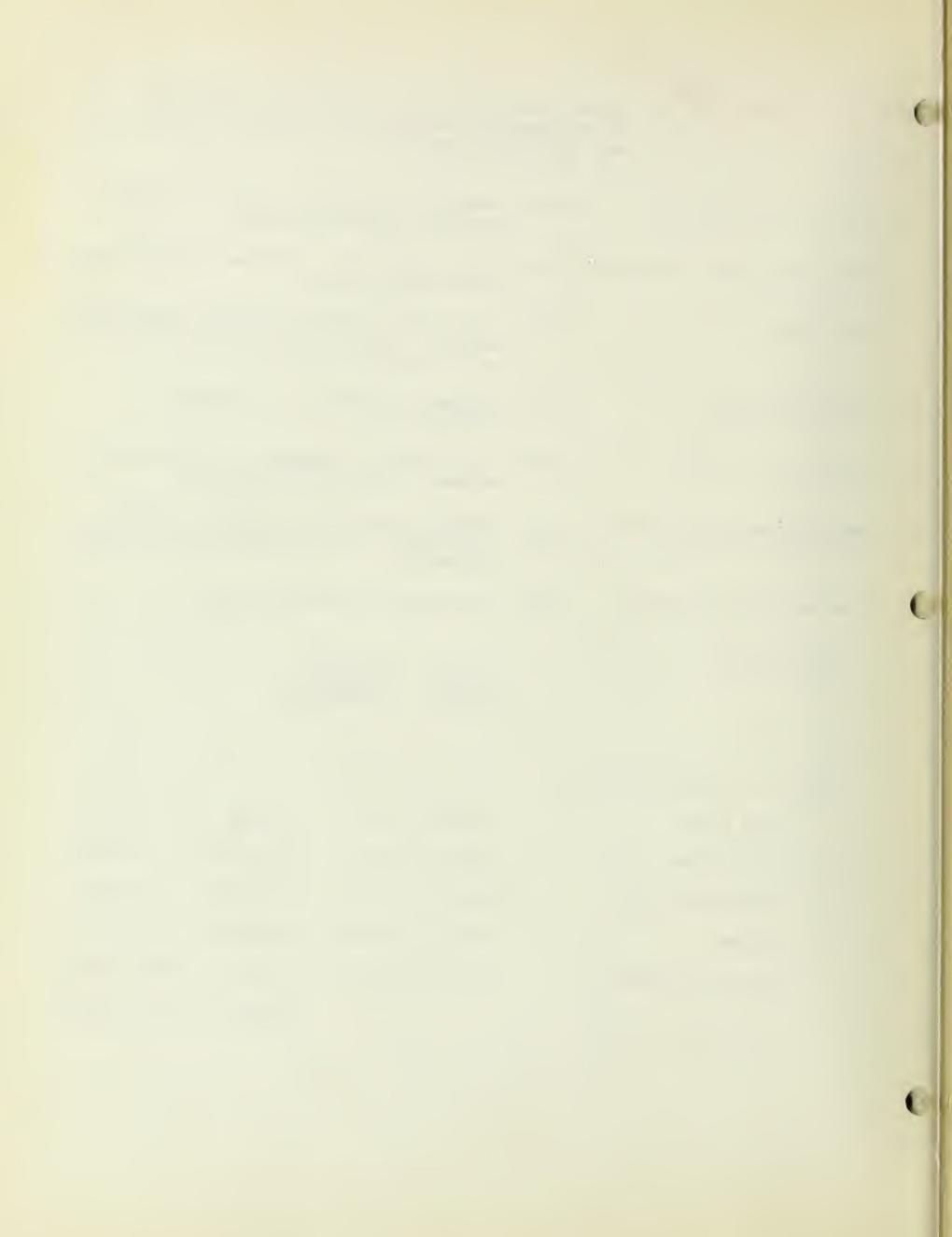
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Group No. 4: Older Areas (prior to 1947) not landscaped or maintained (except for minimum fireguarding and garbage removal).

2	Francisco Reservoir	1861	Abandoned southerly basin receives cursory attention only.
24	Lake Honda (Res. Storage)	1861	Not landscaped - approx. 6 acres covered with dense brush.
25	Reis Tract	1885	2.07 Acres fenced, but not landscaped. Extreme public complaints of brush and garbage.
26	Wilde Reservoir	1902	Approx. 10 Acres. In process of abandonment.
27	Forest Hill Tanks	1926	1,000 Shrubs (approx). Landscaped by others, but we must maintain.
28	San Andreas 54-inch Pipe Line Right-of-Way	1927	899,000 Iceplant. Extreme public complaint of encroachment on private property.
29	Olmstead Pump Station	1934	In process of abandonment.
Sub-Totals			
		1,000 (Shrubs)	899,000 (Iceplant)

GRAND TOTALS:

Lawn Area	440,555 sq. ft. (Approx. 10 acres)
Shrub Area	917,935 sq. ft. (Approx. 12 acres)
Iceplant & Ivy	1,169,030 sq. ft. (Approx. 26 acres)
Hedges	16,140 lin.ft. (Approx. 1.1 acres)
Parks & Grounds	667,840 sq. ft. (Approx. 14.6 acres)
	(Total = 63.7 acres)



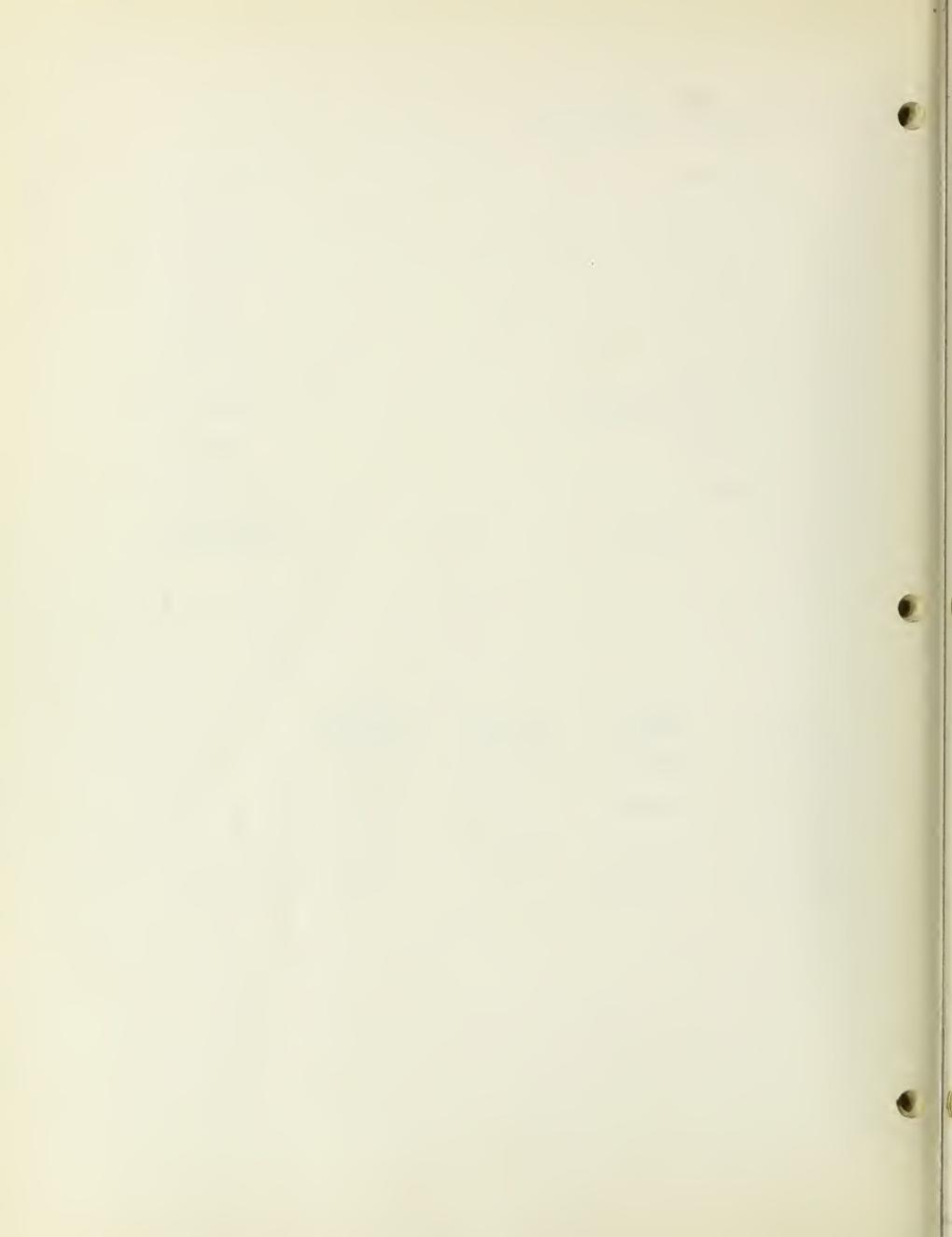




19. OVERTIME - \$27,000.00

Executive	\$ 1,200.00
Accounting	1,200.00
Purification	3,300.00
Engineering	500.00
Agriculture	200.00
Commercial	8,200.00
City Distribution	9,000.00
Peninsula	900.00
Alameda	<u>2,500.00</u>
TOTAL	<u>\$27,000.00</u>

<u>Year</u>	<u>Budgeted Amount</u>	<u>Transfer</u>	<u>Total Expended</u>
1964-65	\$18,900	\$1,000	\$19,667
1965-66	20,592	2,000	22,432
1966-67	21,592	2,500	23,826
1967-68	23,500		11,912 to Dec. 31



19 - OVERTIME

EXECUTIVE - \$1,200

0-1	Chauffeur	120 hrs.	@ 6.881	\$825.72
1444	Clerk Stenographer	16 "	@ 4.769	76.30
1446	Senior Clerk Stenographer	16 "	@ 5.133	82.13
1452	Stenographic Secretary	8 "	@ 5.938	47.50
1842	Management Assistant	16 "	@ 7.583	121.33
	Miscellaneous			<u>47.02</u>

TOTAL EXECUTIVE DIVISION

\$1,200.00

ACCOUNTING - \$1,200

Payroll

1220	Payroll & Personnel Clerk	48 hrs.	@ 5.133	\$246.38
1224	Principal Payroll & Personnel Clerk	48 "	@ 6.552	314.50
1602	Calculating Machine Operator	16 "	@ 4.665	<u>74.64</u>
	TOTAL PAYROLL			<u>\$ 635.52</u>

Annual Inventory

1632	Senior Account Clerk	16 hrs.	@ 5.392	86.27
1650	Accountant	16 "	@ 6.388	102.21
1652	Senior Accountant	16 "	@ 7.756	<u>124.10</u>
	TOTAL ANNUAL INVENTORY			<u>\$ 312.58</u>

Electronic Data Processing

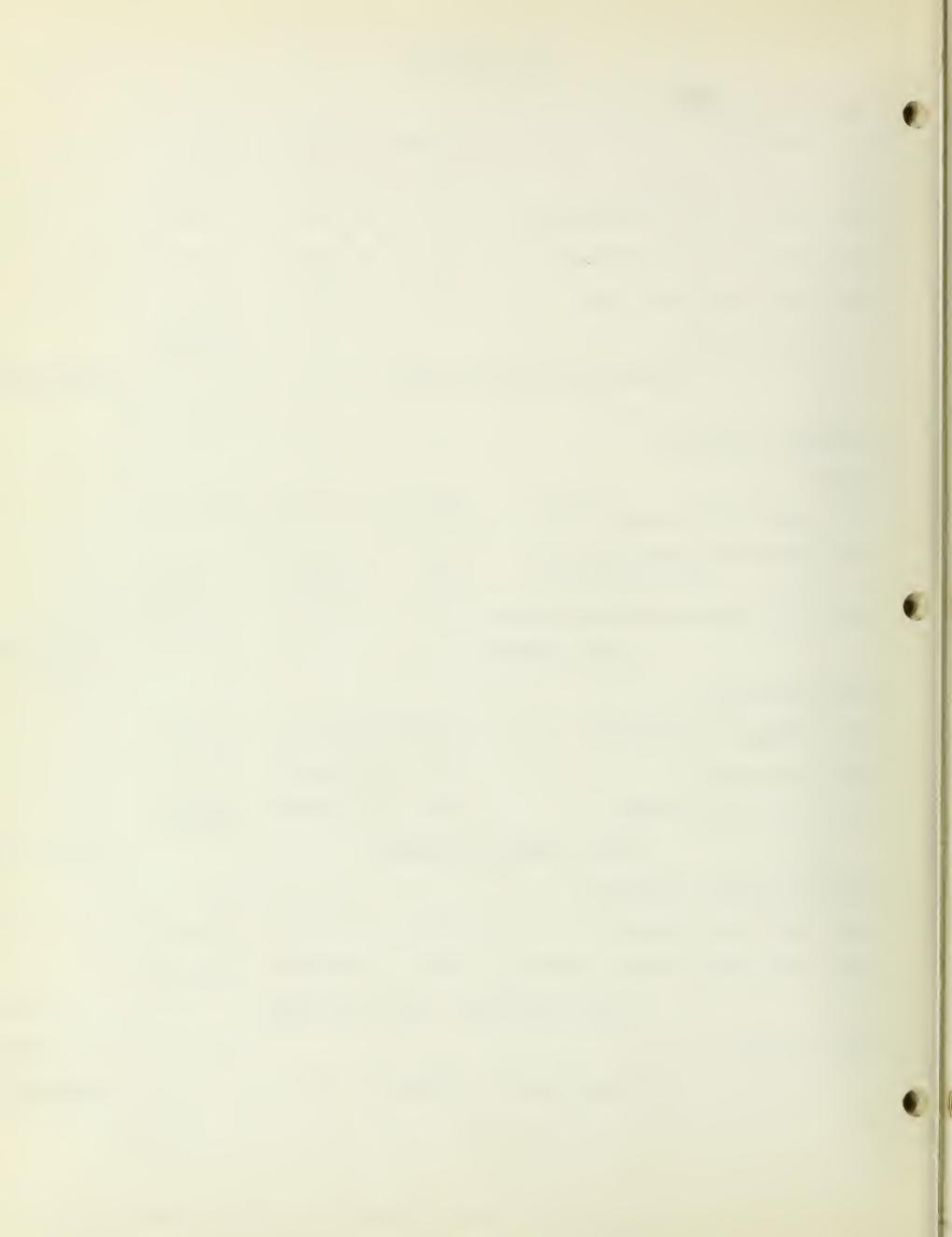
1720	Key Punch Operator	24 hrs.	@ 4.544	109.06
1722	Tabulating Machine Operator	24 "	@ 5.003	<u>120.07</u>
	TOTAL ELECTRONIC DATA PROCESSING			<u>\$ 229.13</u>

Miscellaneous

TOTAL ACCOUNTING DIVISION

\$ 22.77

\$1,200.00



PURIFICATION - \$3,300

Laboratory

2416 Bac. Lab. Assistant	32 hrs. @ 4.544	\$145.41
2470 Water Chemist	24 " @ 7.583	<u>181.99</u>
	TOTAL LABORATORY	\$ 327.40

Sanitary Engineering

5220 Jr. Water Purification Engineer	16 hrs. @ 7.583	121.33
5222 Asst. Water Purification Engineer	48 " @ 8.769	420.91
6106 Sanitary Eng. Technician	120 " @ 6.708	804.96
7317 Sr. Dist. Water Serviceman	16 " @ 8.769	<u>140.30</u>
	TOTAL SANITARY ENGINEERING	\$1,487.50

Filtration

7396 Jr. Water Treatment Plant Operator	48 hrs. @ 5.133	246.38
7397 Water Treatment Plant Op.	88 " @ 6.552	576.58
7398 Sr. Water Treatment Plant Operator	88 " @ 7.219	<u>635.27</u>
	TOTAL FILTRATION	\$1,458.23

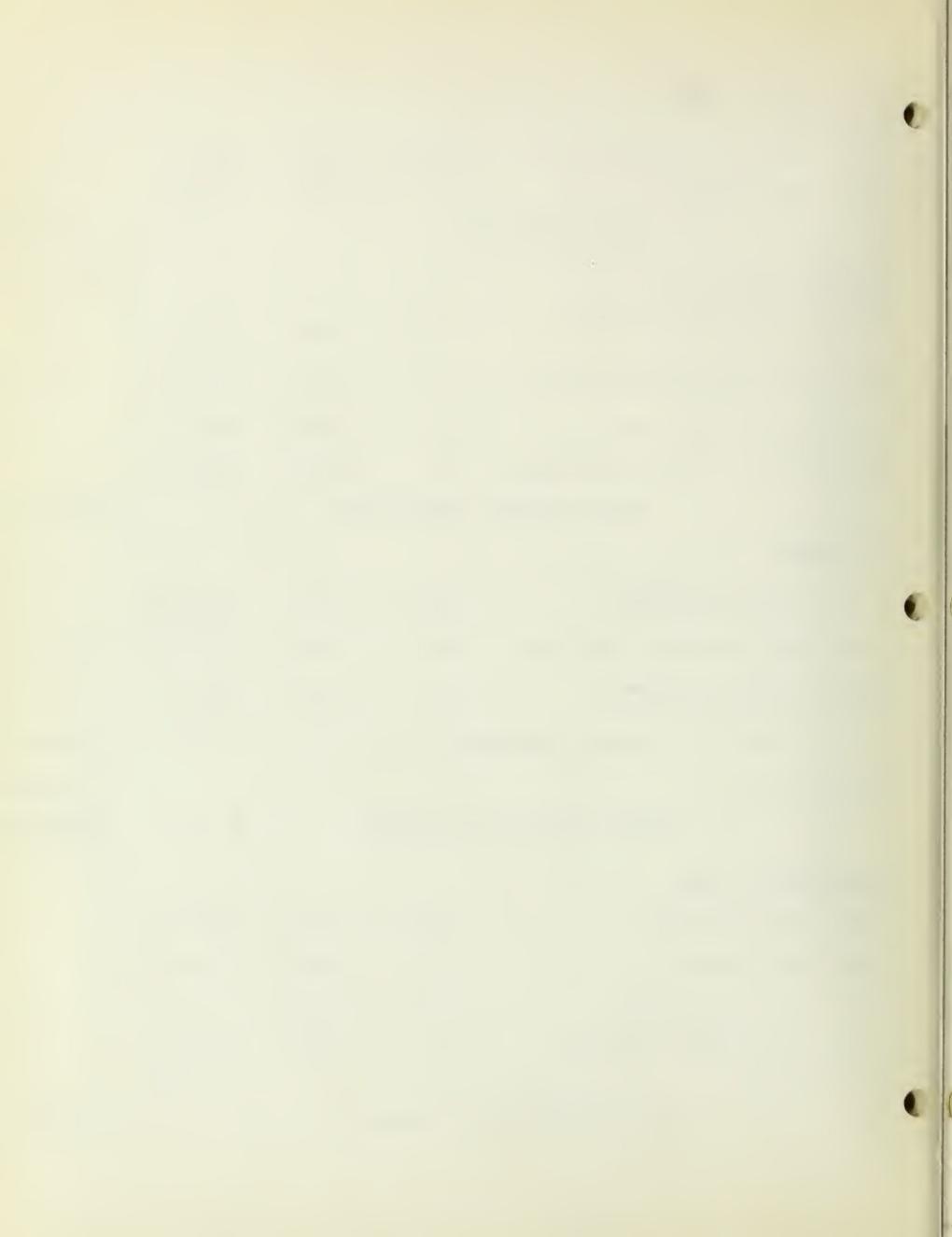
Miscellaneous

TOTAL PURIFICATION DIVISION

\$3,300.00

ENGINEERING - \$500

1408 Principal Clerk	16 hrs. @ 6.388	\$102.21
1424 Clerk Typist	16 " @ 4.544	72.70
1444 Clerk Stenographer	16 " @ 4.769	76.30
5364 Senior Civil Draftsman	32 " @ 7.583	242.66
Miscellaneous		<u>6.13</u>
	TOTAL ENGINEERING DIVISION	\$ 500.00



AGRICULTURE & LAND - \$200

3406 Agricultural Land Use Aide      32 hrs. @ 6.085      \$194.72  
Miscellaneous    5.28

## TOTAL AGRICULTURE &amp; LAND DIVISION

\$ 200.00COMMERCIAL DIVISION - \$8,200General Office Services

1468 Water Services Clerk	24 hrs.	@ 5.392	\$129.41
1470 Serv. & Supply Asst. Sup.	60 "	@ 6.552	393.12
1472 Serv. & Supply Sup.	40 "	@ 7.392	295.68
1478 Sr. Water Service Clerk	40 "	@ 5.938	237.52
1620 Billing Auditor	8 "	@ 5.522	44.18
1630 Account Clerk	40 "	@ 4.665	186.60

## TOTAL GENERAL OFFICE SERVICES

\$1,286.51Building Services

1708 Sr. Telephone Operator	32 hrs.	@ 4.769	152.61
2714 Janitor	120 "	@ 4.769	572.28
2718 Janitor Foreman	64 "	@ 5.799	371.14
7426 Elevator Operator	16 "	@ 4.328	69.25

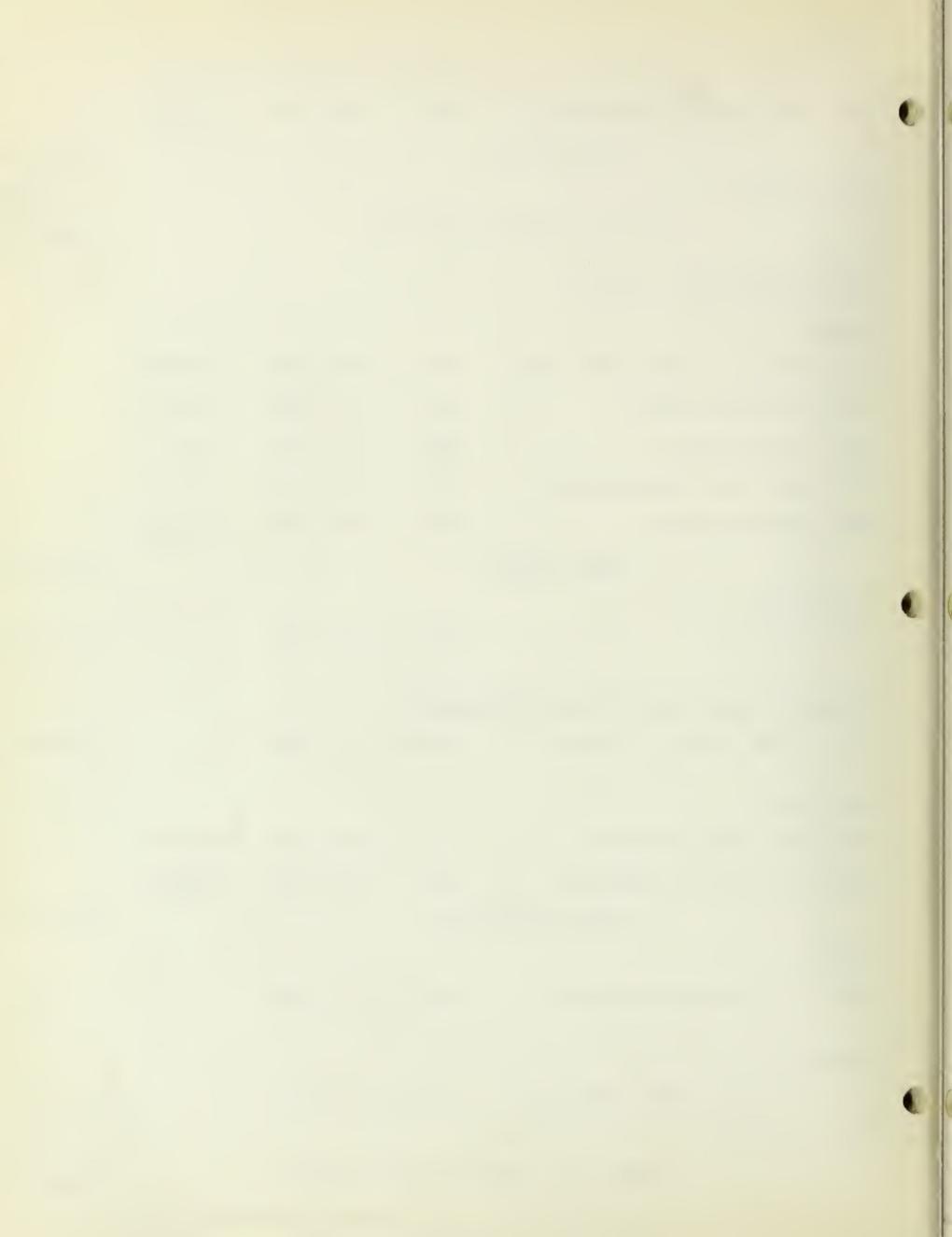
## TOTAL BUILDING SERVICES

\$1,165.28Outside Services

7204 Chief Dist. Water Serviceman	32 hrs.	@ 9.201	\$294.43
7207 Dock & Ship Supervisor	128 "	@ 8.145	1,042.56
7316 Dist. Water Serviceman	240 "	@ 7.756	1,861.44
7317 Sr. Dist. Water Serviceman	60 "	@ 8.769	526.14

## TOTAL OUTSIDE SERVICES

\$3,724.57



PENINSULA - \$900

Office

1446 Sr. Clerk Stenographer	20 hrs. @ 5.133	\$102.66
1706 Telephone Operator	48 " @ 4.544	218.11
1708 Sr. Telephone Operator	32 " @ 4.769	<u>152.61</u>
TOTAL OFFICE		\$ 473.38

Watershed

7470 Watershed Keeper	60 hrs. @ 5.799	\$ 347.94
Miscellaneous		<u>78.68</u>
TOTAL PENINSULA DIVISION		<u>\$ 900.00</u>

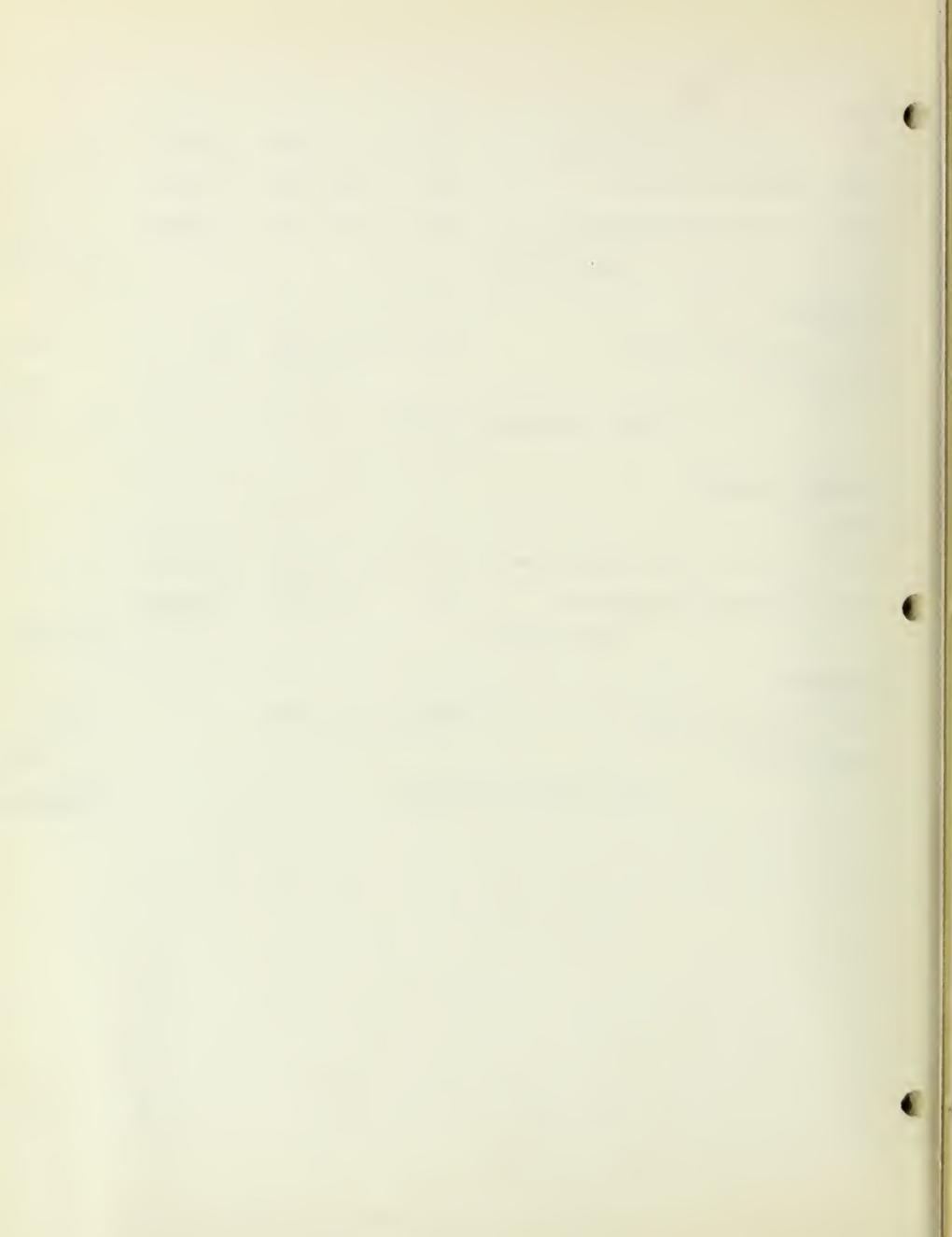
ALAMEDA - \$2,500

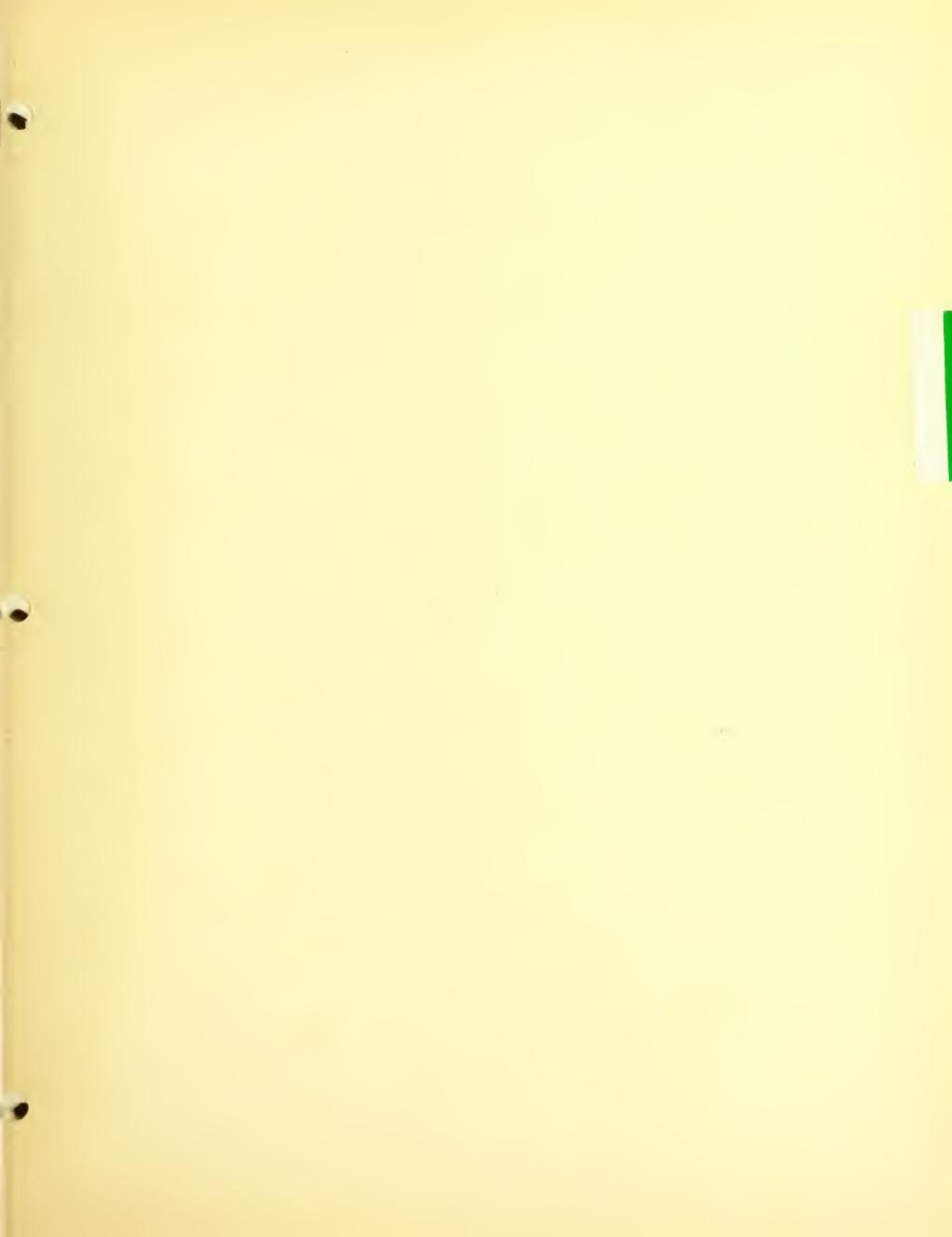
Office

7317 Sr. Dist. Water Serviceman	72 hrs. @ 8.769	\$631.37
1446 Sr. Clerk Stenographer	40 " @ 5.133	<u>205.32</u>
TOTAL OFFICE		\$ 836.69

Watershed

7470 Watershed Keeper	280 hrs. @ 5.799	\$1,623.72
Miscellaneous		<u>39.59</u>
TOTAL ALAMEDA DIVISION		<u>\$2,500.00</u>



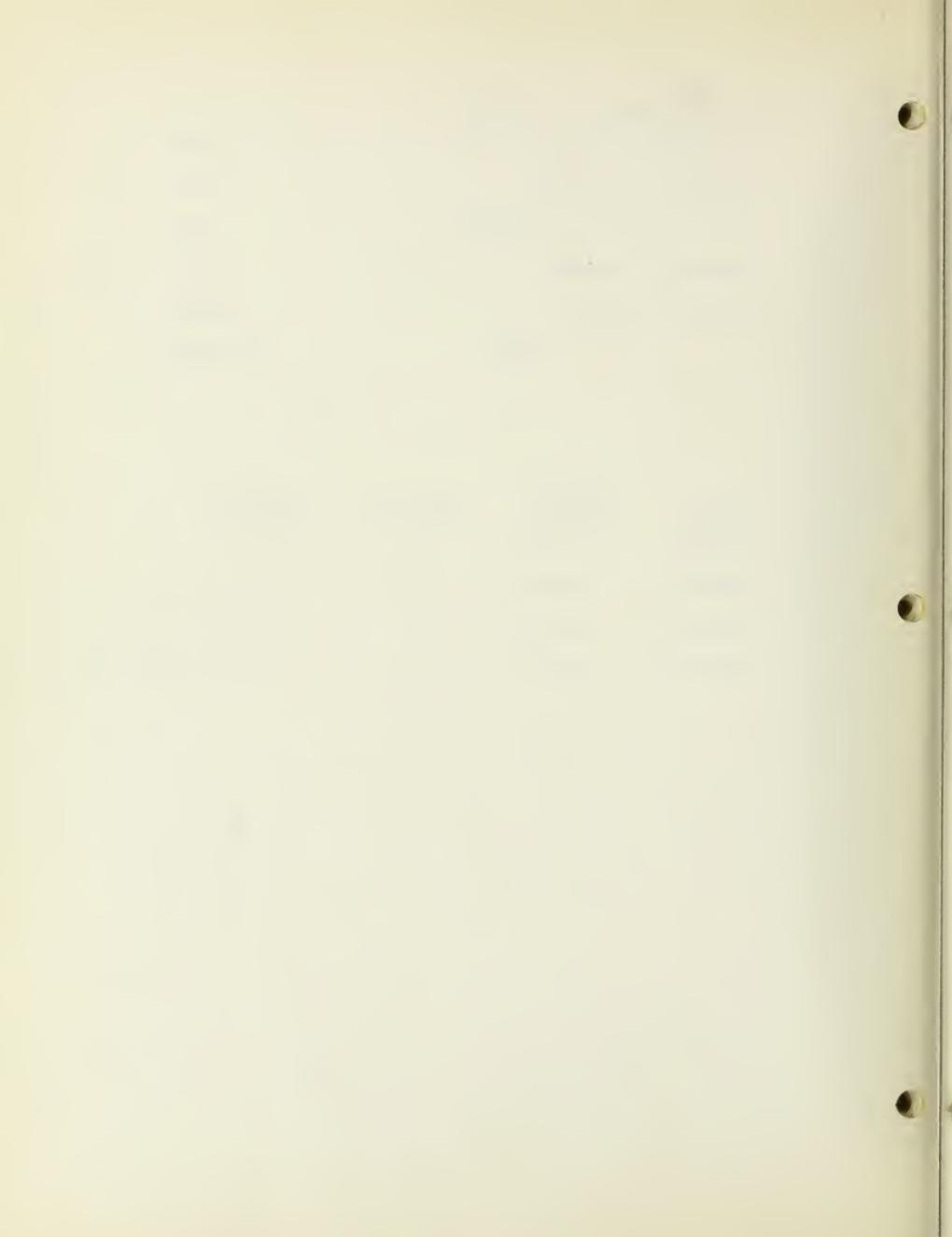




20 - HOLIDAY PAY - \$21,802

PURIFICATION DIVISION	\$ 2,796
COMMERCIAL DIVISION	4,327
CITY DISTRIBUTION DIVISION	3,150
PENINSULA DIVISION	8,412
ALAMEDA DIVISION	<u>3,117</u>
TOTAL	<u>\$ 21,802</u>

<u>Year</u>	<u>Budgeted Amount</u>	<u>Transfer</u>	<u>Total Expended</u>
1964-65	\$ 13,465	--	\$ 13,274
1965-66	14,703	--	14,628
1966-67	15,423	--	15,017
1967-68	20,203	--	8,557 to Dec. 31





2740 Water Purification Tests at Sunol Filter Plant.

7397 Operation of Sunol Filter Plant.

7470 Reservoir Readings.

1708 Emergency Phone for Water Department.

2714 Building Surveillance.

1706 Emergency Phone for Peninsula Division.

7270 Supervision of Peninsula Watershed Keepers.

7470 Surveillance of Peninsula Watershed.

7470 Surveillance of Alameda Watershed and  
Miscellaneous Water Level Readings.

2470 Water Purification Tests at Sunol Filter Plant.

7397 Operation of Sunol Filter Plant

7470 Reservoir Readings.

20 - HOLIDAY PAY

JULY 4th

PURIFICATION

1 - 2470 Water Chemist	\$ 30
3 - 7397 Water Treatment Plant Operators	157
1 - 7470 Watershed Keeper	<u>46</u>
	<u>\$ 233</u>

COMMERCIAL

3 - 1708 Sr. Telephone Operators	\$ 114
3 - 2714 Janitors	<u>114</u>
	<u>\$ 228</u>

PENINSULA

3 - 1706 Telephone Operators	\$ 109
1 - 7270 Watershed Keeper Supervisor	54
11 - 7470 Watershed Keepers	<u>510</u>

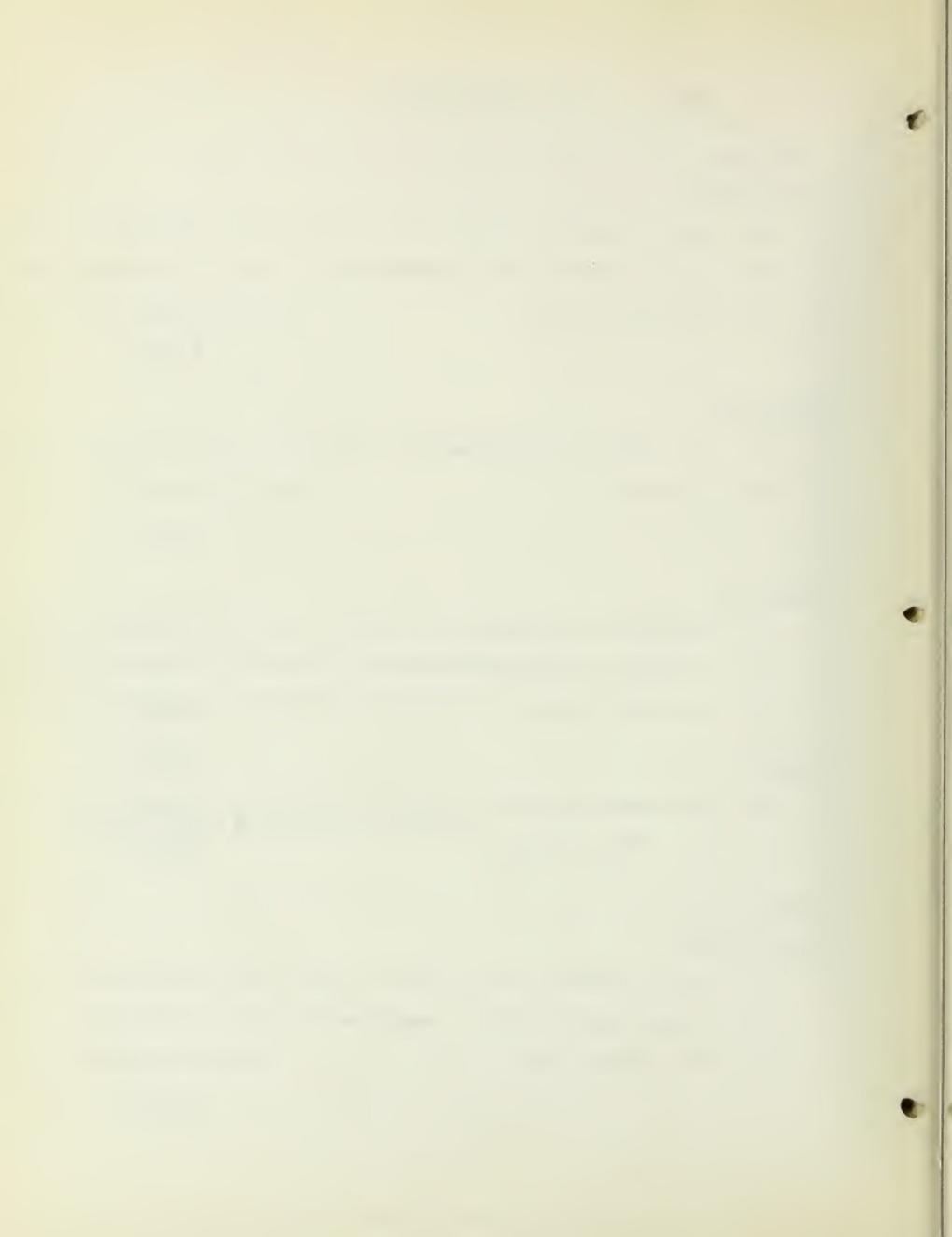
ALAMEDA

5 - 7470 Watershed Keepers	<u>\$ 232</u>
TOTAL JULY 4th	<u>\$1,366</u>

SEPTEMBER 2nd

PURIFICATION

1 - 2470 Water Chemist	\$ 30
3 - 7397 Water Treatment Plant Operators	157
1 - 7470 Watershed Keeper	<u>46</u>
	<u>\$ 233</u>





1708 Emergency Phone for Water Department.

2714 Building Surveillance.

1706 Emergency Phone for Peninsula Division.

7270 Supervision of Peninsula Watershed Keepers.

7470 Surveillance of Peninsula Watershed.

7470 Surveillance of Alameda Watershed and  
Miscellaneous Water Level Readings.

2470 Water Purification Tests at Sunol Filter Plant.

7397 Operation of Sunol Filter Plant.

7470 Reservoir Readings.

1708 Emergency Phone for Water Department.

7316 Field Men for Miscellaneous Services.

1468 Answer Phones & Process Necessary Documents.

1478 Answer Phones & Process Necessary Documents.

2714 Janitorial Services & Building Surveillance.

SEPTEMBER 2nd (continued)

COMMERCIAL

3 - 1708 Sr. Telephone Operators	\$ 114
3 - 2714 Janitors	<u>114</u>
	\$ 228

PENINSULA

3 - 1706 Telephone Operators	\$ 109
1 - 7270 Watershed Keeper Supervisor	54
11 - 7470 Watershed Keepers	<u>510</u>
	\$ 673

ALAMEDA

5 - 7470 Watershed Keepers	\$ 232
TOTAL SEPTEMBER 2nd	<u>\$1,366</u>

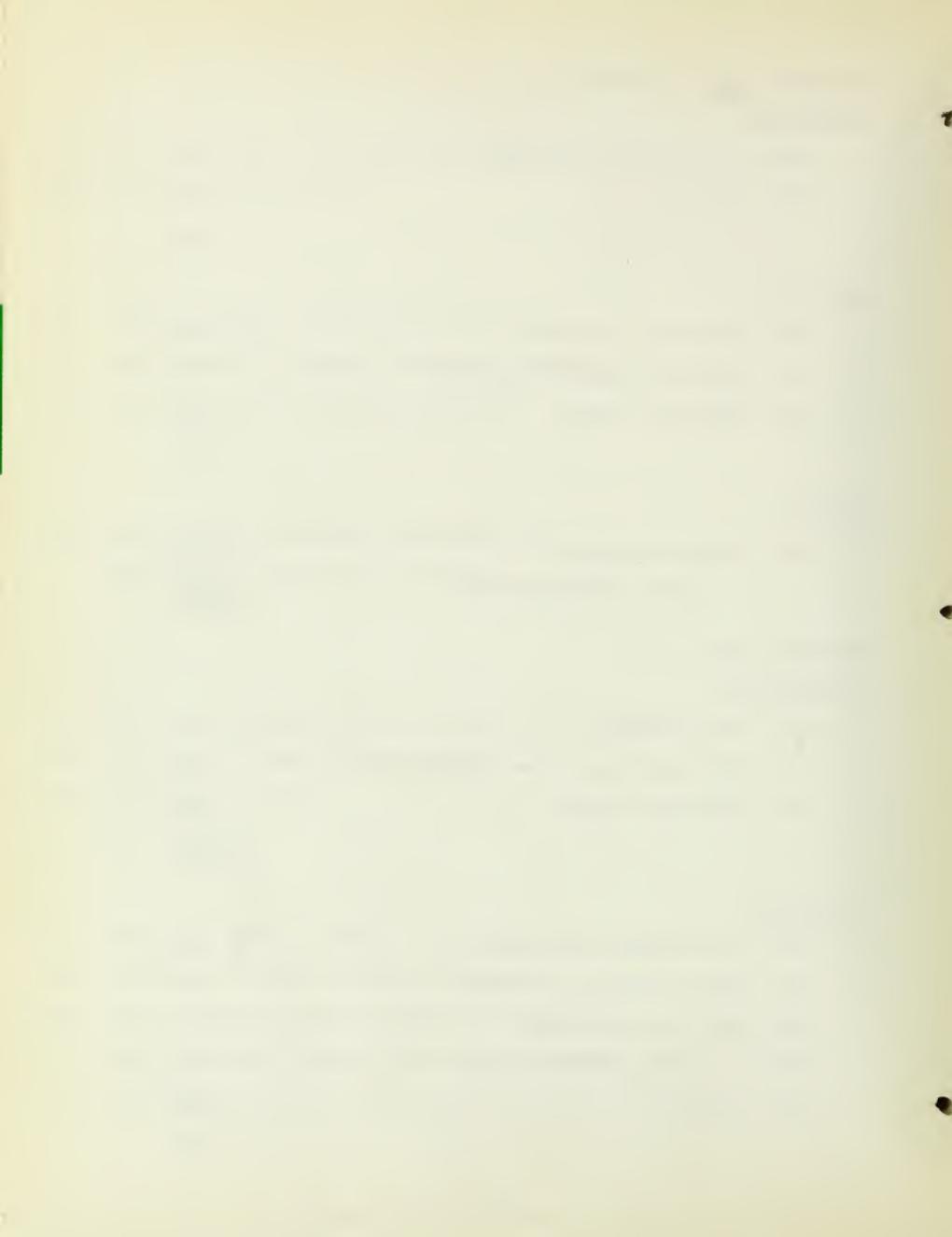
SEPTEMBER 9th

PURIFICATION

1 - 2470 Water Chemist	\$ 30
3 - 7397 Water Treatment Plant Operators	157
1 - 7470 Watershed Keepers	<u>46</u>
	\$ 233

COMMERCIAL

3 - 1708 Sr. Telephone Operators	\$ 114
4 - 7316 District Water Servicemen	248
1 - 1468 Water Services Clerk	43
1 - 1478 Sr. Water Services Clerk	49
3 - 2714 Janitors	<u>114</u>
	\$ 568





1706 Emergency Phone for Peninsula Division.  
7270 Supervision of Peninsula Watershed Keepers.  
7470 Surveillance of Peninsula Watershed.

7470 Surveillance of Alameda Watershed and  
Miscellaneous Water Level Readings.

2470 Water Purification Tests at Sunol Filter Plant.  
7397 Water Treatment Plant Operators  
7470 Reservoir Readings.

1708 Emergency Phone for Water Department.  
2714 Building Surveillance.  
7316 Field Men for Miscellaneous Services  
7426 Building Surveillance.

1706 Emergency Phone for Peninsula Division.  
7270 Supervision of Peninsula Watershed Keepers.  
7470 Surveillance of Peninsula Watershed.

SEPTEMBER 9th (continued)

PENINSULA

3 - 1706 Telephone Operators	\$ 109
1 - 7270 Watershed Keeper Supervisor	54
11 - 7470 Watershed Keepers	<u>510</u>
	\$ 673

ALAMEDA

5 - 7470 Watershed Keepers	\$ 232
TOTAL SEPTEMBER 9th	<u>\$1,706</u>

OCTOBER 12th

PURIFICATION

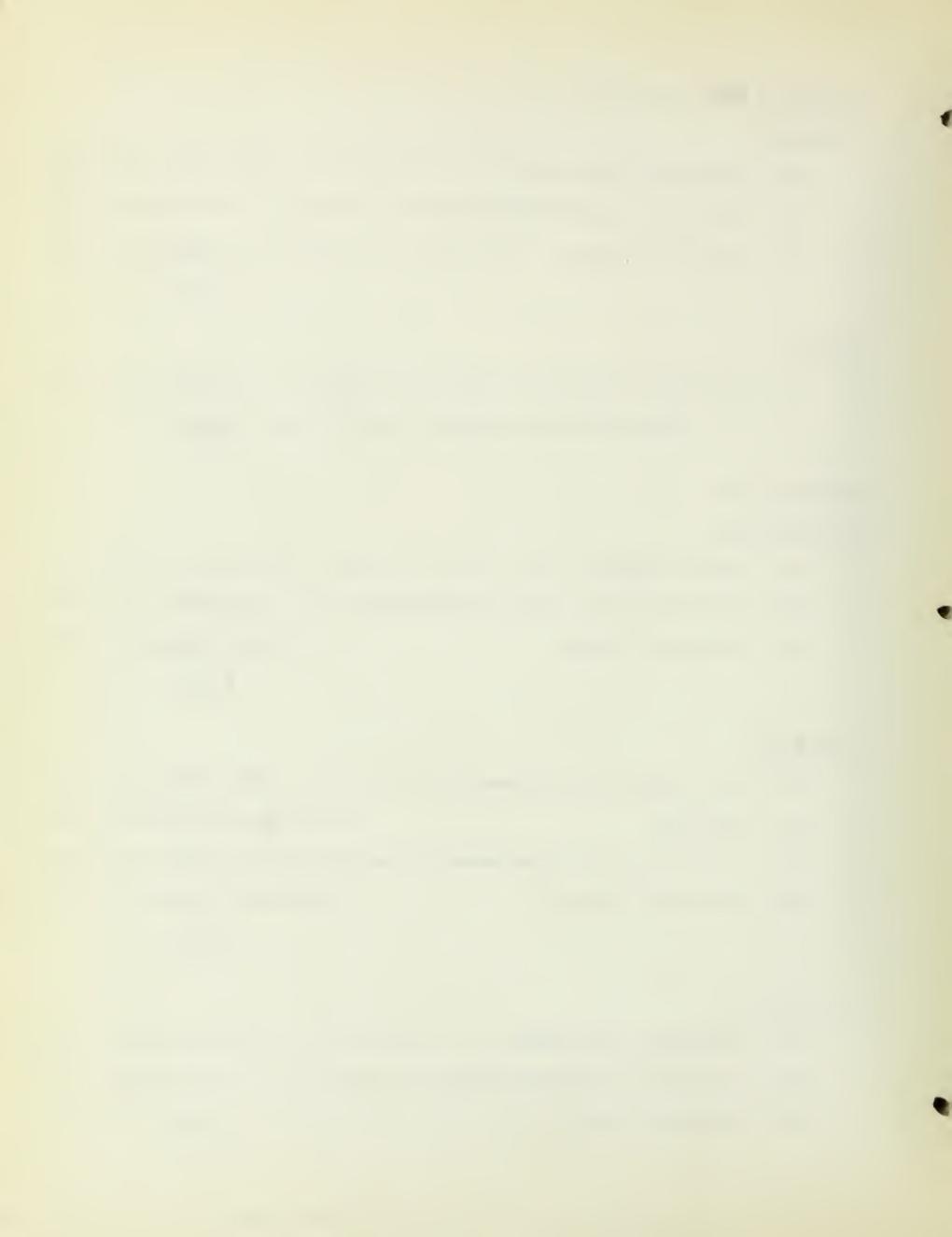
1 - 2470 Water Chemist	\$ 30
3 - 7397 Water Treatment Plant Operators	157
1 - 7470 Watershed Keeper	<u>46</u>
	\$ 233

COMMERCIAL

3 - 1708 Sr. Telephone Operators	\$ 114
2 - 2714 Janitors	76
3 - 7316 District Water Servicemen	186
1 - 7426 Elevator Operator	<u>35</u>
	\$ 411

PENINSULA

3 - 1706 Telephone Operators	\$ 109
1 - 7270 Watershed Keeper Supervisor	54
11 - 7470 Watershed Keepers	<u>510</u>
	\$ 673





7470 Surveillance of Alameda Watershed and  
Miscellaneous Water Level Readings.

2470 Water Purification Tests at Sunol Filter Plant

7397 Operation of Sunol Filter Plant.

7470 Reservoir Readings.

1468 Answer Phones & Process Necessary Documents.

1478 Answer Phones & Process Necessary Documents.

1708 Emergency Phone for Water Department.

2714 Janitorial Service & Building Surveillance.

7316 Field Men for Miscellaneous Services and  
Meter Reader Supervision.

OCTOBER 12th (continued)

ALAMEDA

5 - 7470 Watershed Keepers	\$ 232
TOTAL OCTOBER 12th	<u>\$1,549</u>

NOVEMBER 5th

PURIFICATION

1 - 2470 Water Chemist	\$ 30
3 - 7397 Water Treatment Plant Operators	157
1 - 7470 Watershed Keeper	<u>46</u>
	<u>\$ 233</u>

COMMERCIAL

1 - 1468 Water Services Clerk	\$ 43
1 - 1478 Sr. Water Services Clerk	49
3 - 1708 Sr. Telephone Operators	114
2 - 2714 Janitors	76
4 - 7316 District Water Servicemen	<u>248</u>
	<u>\$ 530</u>





CITY DISTRIBUTION

November 5th is a holiday for miscellaneous City Employees. All per diem employees are on the job. Consequently, the office staff must be employed as if it were a regular work day.

1706 Emergency Phone for Peninsula Division.

1936 To requisition, store, and distribute supplies to the working per diem employees.

7270 Supervision of Peninsula Watershed Keepers.

7470 Surveillance of Peninsula Watershed.

1446) These employments must carry on essential office  
and ) business when per diem employees are working.  
7317)

7470 Surveillance of Alameda Watershed and  
Miscellaneous Water Level Readings.

NOVEMBER 5th (continued)

CITY DISTRIBUTION

1 - 1220 Payroll & Personnel Clerk	\$ 41
1 - 1408 Principal Clerk	51
2 - 1426 Senior Clerk Typists	80
1 - 1446 Sr. Clerk Stenographer	41
2 - 2714 Janitors	81
1 - 7134 Const. & Maint. Supt.	104
1 - 7240 Water Meter Shop Foreman	70
1 - 7316 District Water Serviceman	62
6 - 7353 Water Meter Repairmen	355
2 - 7442 Water Meter Repairman Helpers	88
1 - 0172 Chief Operating Engineer	<u>72</u>
	<u>\$1,045</u>

PENINSULA

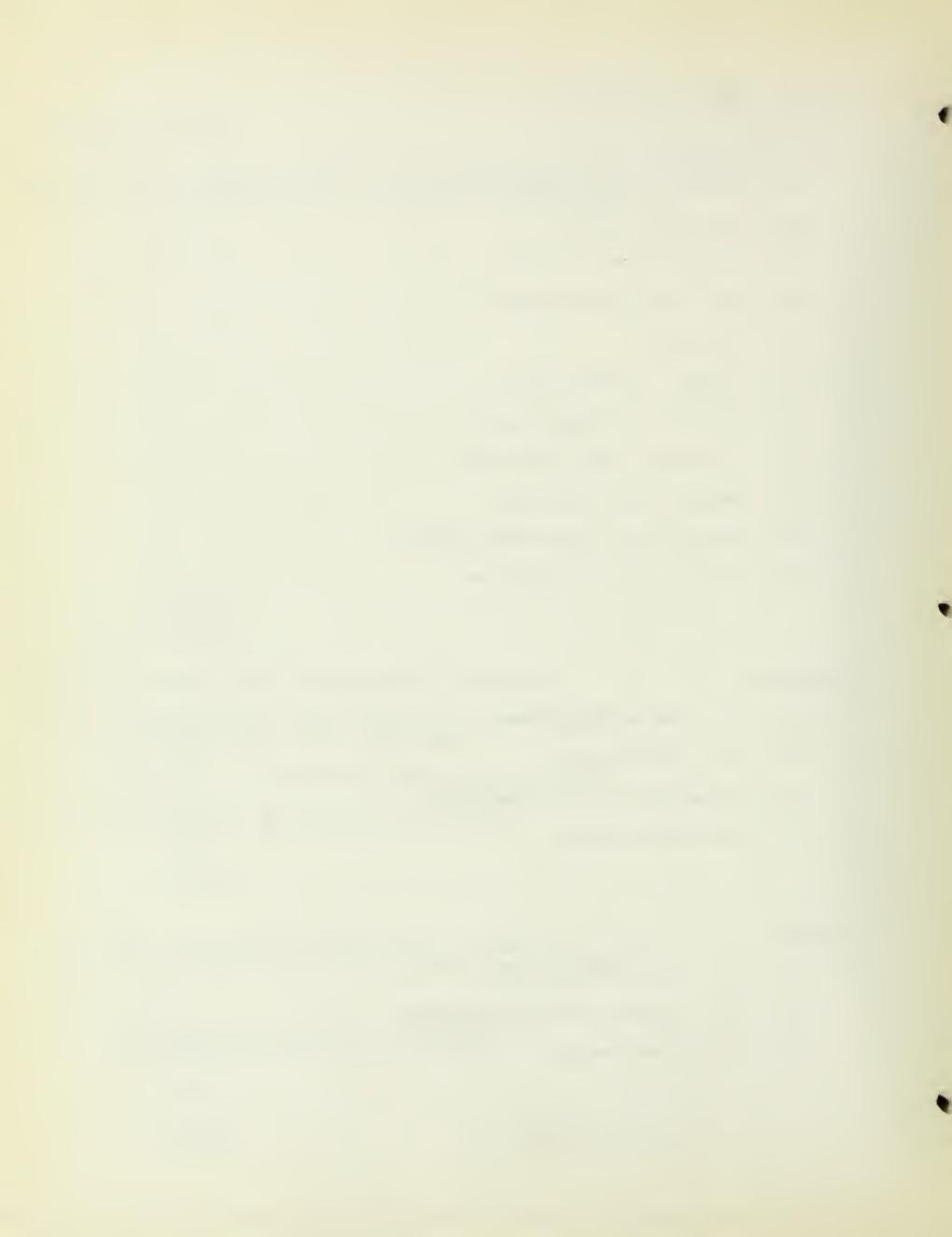
3 - 1706 Telephone Operators	\$ 109
2 - 1936 Sr. Storekeepers	112
1 - 7270 Watershed Keeper Supervisor	54
11 - 7470 Watershed Keepers	<u>510</u>
	<u>\$ 785</u>

ALAMEDA

1 - 1446 Sr. Clerk Stenographer	\$ 41
1 - 7317 Sr. District Water Serviceman	70
5 - 7470 Watershed Keepers	<u>232</u>
	<u>\$ 343</u>

TOTAL NOVEMBER 5th

\$2,936





2470 Water Purification Tests at Sunol Filter Plant.  
7397 Water Treatment Plant Operators.  
7470 Reservoir Readings.

1468 Answer Phones and Process Necessary Documents.  
1478 Answer Phones and Process Necessary Documents.  
1708 Emergency Phone for Water Department.  
2714 Janitorial Service and Building Surveillance.  
7316 Field Men for Miscellaneous Services.

CITY DISTRIBUTION

November 11th is a holiday for miscellaneous City employees. All per diem employees are on the job. Consequently, the office staff must be employed as if it were a regular work day.

NOVEMBER 11th

PURIFICATION

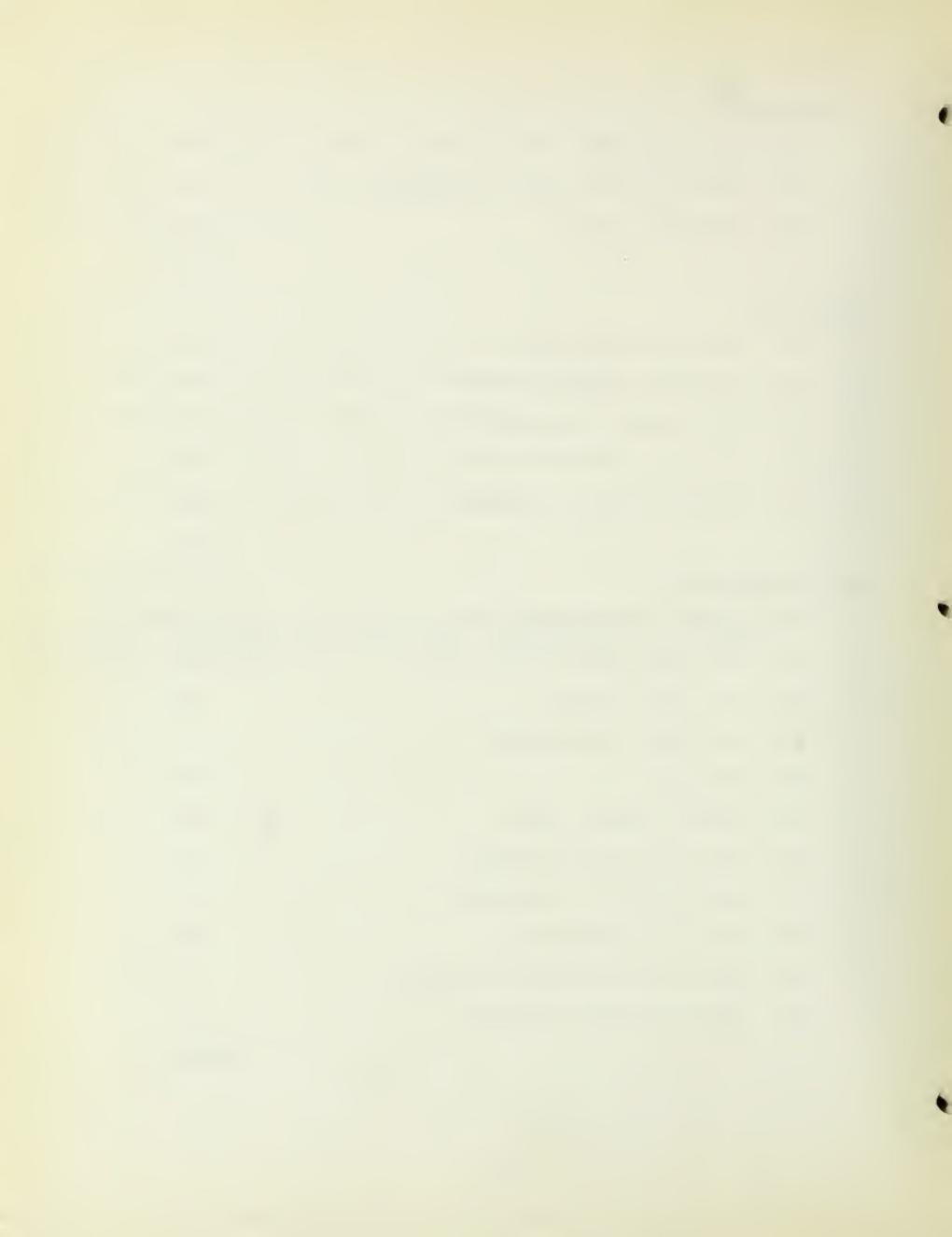
1 - 2470 Water Chemist	\$ 30
3 - 7397 Water Treatment Plant Operators	157
1 - 7470 Watershed Keeper	<u>46</u>
	<u>\$ 233</u>

COMMERCIAL

1 - 1468 Water Services Clerk	\$ 43
1 - 1478 Sr. Water Services Clerk	49
3 - 1708 Sr. Telephone Operators	114
3 - 2714 Janitors	<u>114</u>
4 - 7316 District Water Servicemen	<u>248</u>
	<u>\$ 568</u>

CITY DISTRIBUTION

1 - 1220 Payroll & Personnel Clerk	\$ 41
1 - 1408 Principal Clerk	51
2 - 1426 Sr. Clerk Typists	80
1 - 1446 Sr. Clerk Stenographer	41
2 - 2714 Janitors	81
1 - 7134 Const. & Maint. Supt.	104
1 - 7240 Water Meter Shop Foreman	70
1 - 7316 District Water Serviceman	62
6 - 7353 Water Meter Repairmen	355
2 - 7442 Water Meter Repairman Helpers	88
1 - 0172 Chief Operating Engineer	<u>72</u>
	<u>\$1,045</u>





1706 Emergency Phone for Peninsula Division.  
1936 To requisition, store, and distribute supplies to  
the working per diem employees.  
7270 Supervision of Peninsula Watershed Keepers.  
7470 Surveillance of Peninsula Watershed.

1446) These employments must carry on essential office  
and ) business when per diem employees are working.  
7317)

7470 Surveillance of Alameda Watershed and  
Miscellaneous Water Level Readings.

2470 Water Purification Tests at Sunol Filter Plant.  
7397 Operation of Sunol Filter Plant.  
7470 Reservoir Readings.

1708 Emergency Phone for Water Department.  
2714 Building Surveillance

NOVEMBER 11th (continued)

PENINSULA

3 - 1706	Telephone Operators	\$ 109
2 - 1936	Sr. Storekeepers	112
1 - 7270	Watershed Keeper Supervisor	54
11 - 7470	Watershed Keepers	<u>510</u>
		\$ 785

ALAMEDA

1 - 1446	Sr. Clerk Stenographer	\$ 41
1 - 7317	Sr. District Water Serviceman	70
5 - 7470	Watershed Keepers	<u>232</u>
		\$ 343
	TOTAL NOVEMBER 11th	<u>\$2,974</u>

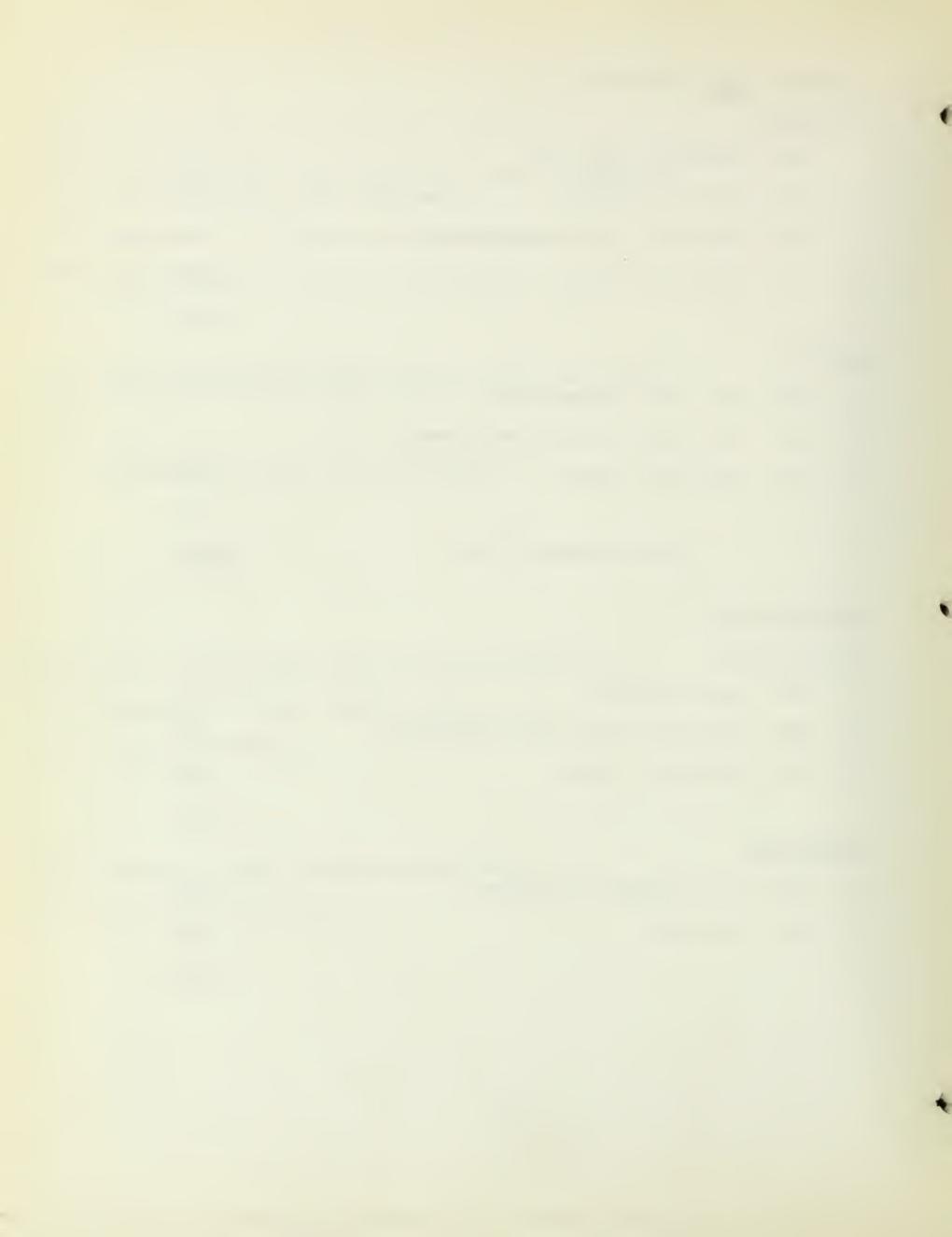
NOVEMBER 28th

PURIFICATION

1 - 2470	Water Chemist	\$ 30
3 - 7397	Water Treatment Plant Operators	157
1 - 7470	Watershed Keeper	<u>46</u>
		\$ 233

COMMERCIAL

3 - 1708	Sr. Telephone Operators	\$ 114
3 - 2714	Janitors	<u>114</u>
		\$ 228





1706 Emergency Phone for Peninsula Division.  
7270 Supervision of Peninsula Watershed Keepers.  
7470 Surveillance of Peninsula Watershed.

7470 Surveillance of Alameda Watershed and  
Miscellaneous Water Level Readings.

2470 Water Purification Tests at Sunol Filter Plant.  
7397 Operation of Sunol Filter Plant.  
7470 Reservoir Readings.

1708 Emergency Phone for Water Department.  
2714 Building Surveillance.

1706 Emergency Phone for Peninsula Division.  
7270 Supervision of Peninsula Watershed Keepers.  
7470 Surveillance of Peninsula Watershed.

NOVEMBER 28th (continued)

PENINSULA

3 - 1706 Telephone Operators	\$ 109
1 - 7270 Watershed Keeper Supervisor	54
11 - 7470 Watershed Keepers	<u>510</u>
	\$ 673

ALAMEDA

5 - 7470 Watershed Keepers	<u>\$ 232</u>
TOTAL NOVEMBER 28th	<u>\$1,366</u>

DECEMBER 25th

PURIFICATION

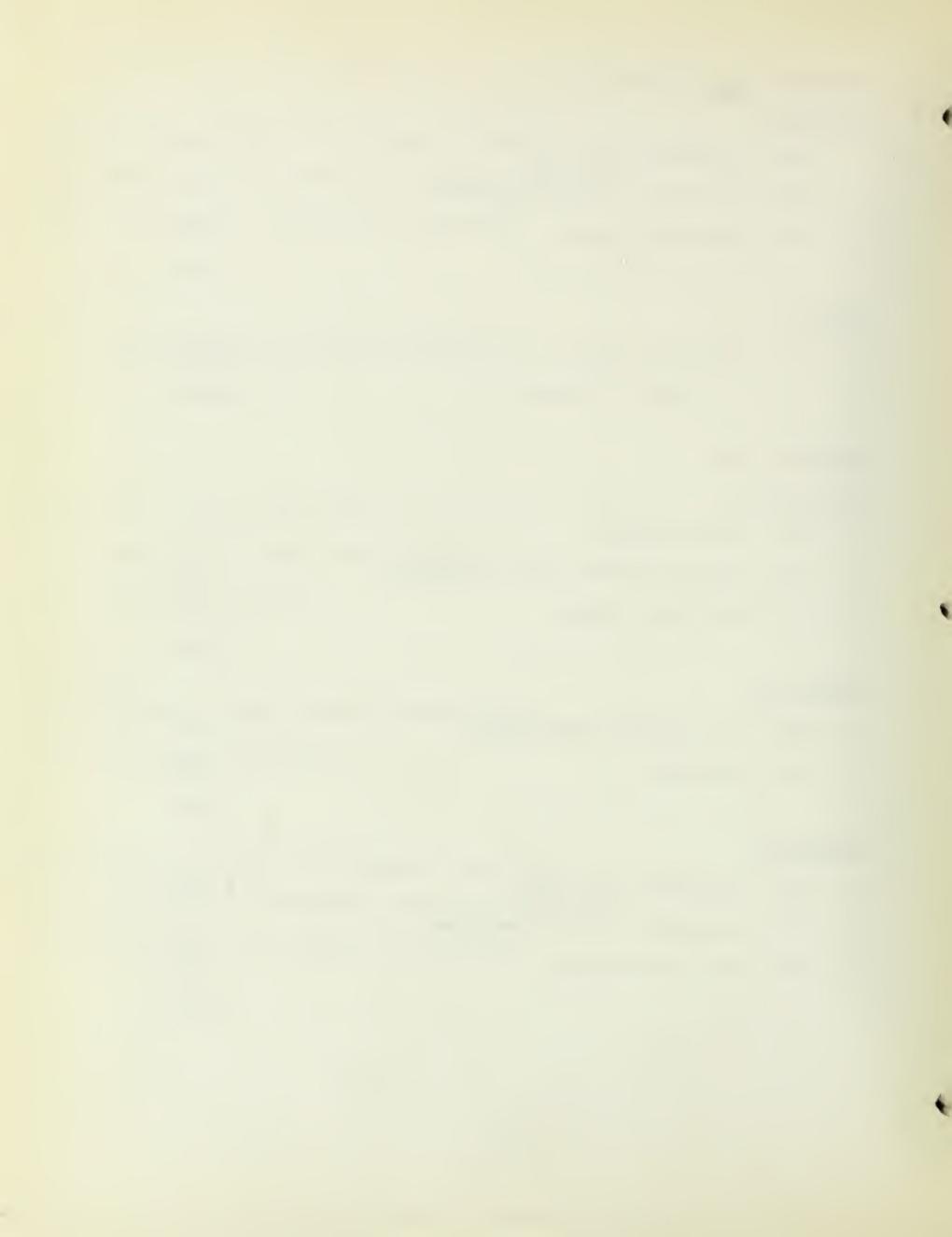
1 - 2470 Water Chemist	\$ 30
3 - 7397 Water Treatment Plant Operators	157
1 - 7470 Watershed Keeper	<u>46</u>
	\$ 233

COMMERCIAL

3 - 1708 Sr. Telephone Operators	\$ 114
3 - 2714 Janitors	<u>114</u>
	\$ 228

PENINSULA

3 - 1706 Telephone Operators	\$ 109
1 - 7270 Watershed Keeper Supervisor	54
11 - 7470 Watershed Keepers	<u>510</u>
	\$ 673





7470 Surveillance of Alameda Watershed and  
Miscellaneous Water Level Readings.

2470 Water Purification Tests at Sunol Filter Plant.

7397 Operation of Sunol Filter Plant.

7470 Reservoir Readings.

1708 Emergency Phone for Water Department.

2714 Building Surveillance.

1706 Emergency Phone for Peninsula Division.

7270 Supervision of Peninsula Watershed Keepers.

7470 Surveillance of Peninsula Watershed.

7470 Surveillance of Alameda Watershed and  
Miscellaneous Water Level Readings.

DECEMBER 25th (continued)

ALAMEDA

5 - 7470 Watershed Keepers	\$ 232
TOTAL DECEMBER 25th	<u>\$1,366</u>

JANUARY 1st

PURIFICATION

1 - 2470 Water Chemist	\$ 30
3 - 7397 Water Treatment Plant Operators	157
1 - 7470 Watershed Keeper	<u>46</u>
	\$ 233

COMMERCIAL

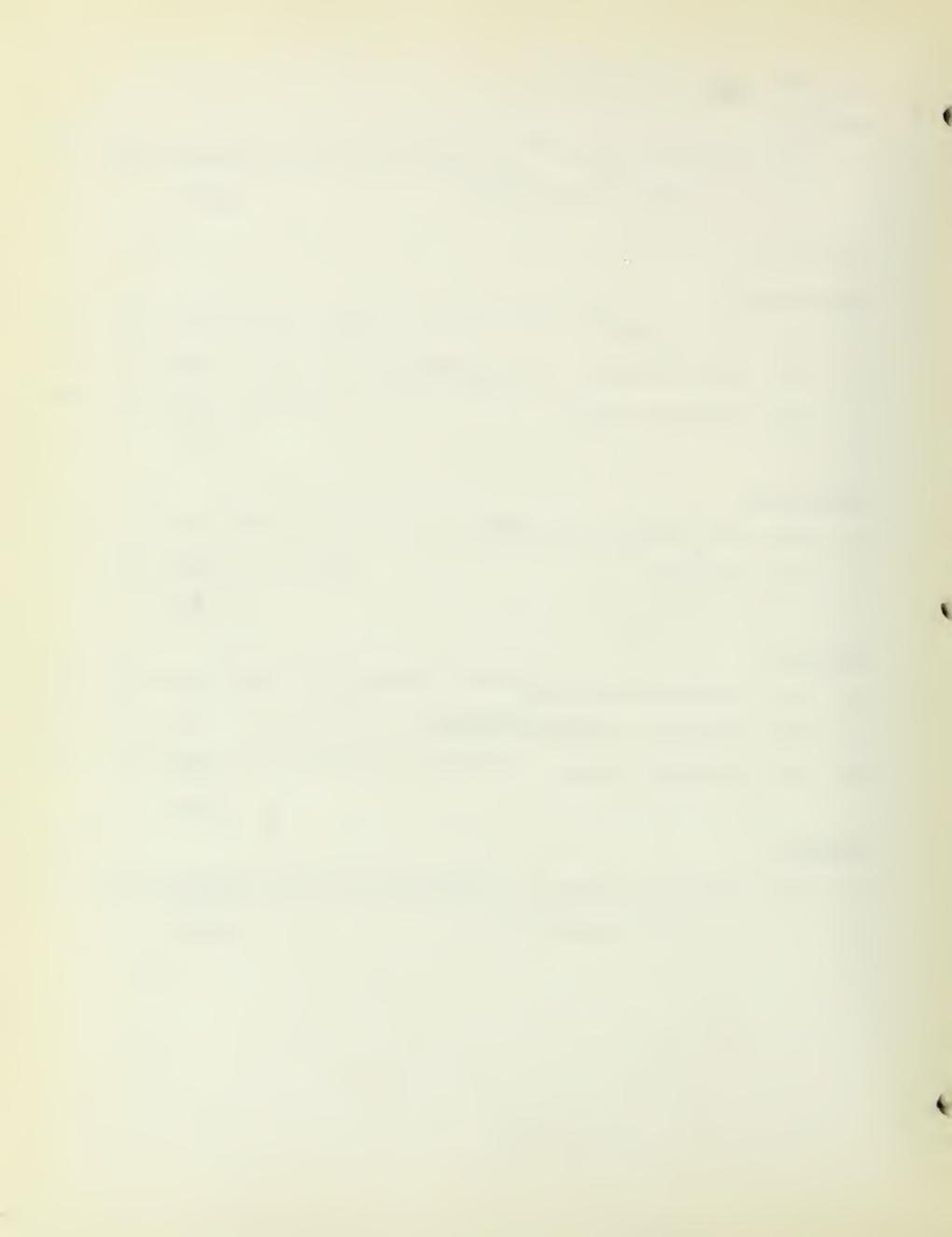
3 - 1708 Sr. Telephone Operators	\$ 114
3 - 2714 Janitors	<u>114</u>
	\$ 228

PENINSULA

3 - 1706 Telephone Operators	\$ 109
1 - 7270 Watershed Keeper Supervisor	54
11 - 7470 Watershed Keepers	<u>510</u>
	\$ 673

ALAMEDA

5 - 7470 Watershed Keepers	\$ 232
TOTAL JANUARY 1st	<u>\$1,366</u>





2470 Water Purification Tests at Sunol Filter Plant.  
7397 Operation of Sunol Filter Plant.  
7470 Reservoir Readings.

1468 Answer Phones and Process Necessary Documents.  
1478 Answer Phones and Process Necessary Documents.  
1708 Emergency Phone for Water Department.  
2714 Janitor Service and Building Surveillance.  
7316 Field Men for Miscellaneous Services and  
Meter Reader Supervision.

CITY DISTRIBUTION

February 12th is a holiday for miscellaneous City employees.  
All per diem employees are on the job. Consequently, the office  
staff must be employed as if it were a regular work day.

FEBRUARY 12th

PURIFICATION

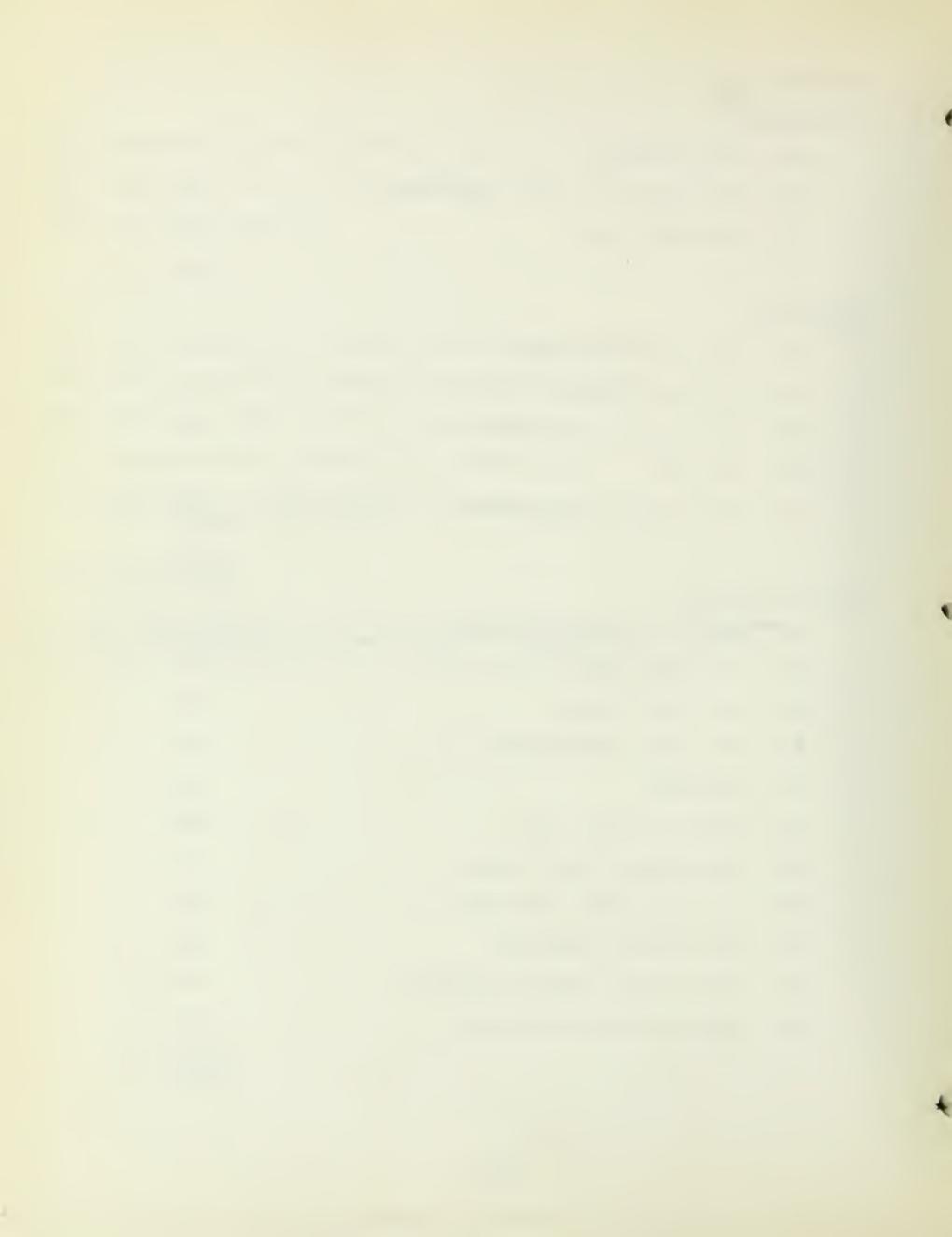
1 - 2470 Water Chemist	\$ 30
2 - 7397 Water Treatment Plant Operators	157
1 - 7470 Watershed Keeper	<u>46</u>
	\$ 233

COMMERCIAL

1 - 1468 Water Services Clerk	\$ 43
1 - 1478 Sr. Water Services Clerk	49
3 - 1708 Sr. Telephone Operators	114
3 - 2714 Janitors	114
4 - 7316 District Water Servicemen	<u>248</u>
	\$ 568

CITY DISTRIBUTION

1 - 1220 Payroll & Personnel Clerk	\$ 41
1 - 1408 Principal Clerk	51
2 - 1426 Sr. Clerk Typists	80
1 - 1446 Sr. Clerk Stenographer	41
2 - 2714 Janitors	81
1 - 7134 Const. & Maint. Supt.	104
1 - 7240 Water Meter Shop Foreman	70
1 - 7316 District Water Serviceman	62
6 - 7353 Water Meter Repairmen	355
2 - 7442 Water Meter Repairman Helpers	88
1 - 0172 Chief Operating Engineer	<u>72</u>
	<u>\$1,045</u>





1706 Emergency Phone for Peninsula Division.  
1936 To requisition, store, and distribute supplies to  
the working per diem employees.  
7270 Supervision of Peninsula Watershed Keepers.  
7470 Surveillance of Peninsula Watershed.

1446) These employments must carry on essential office  
and ) business when per diem employees are working.  
7317)

7470 Surveillance of Alameda Watershed and  
Miscellaneous Water Level Readings.

2470 Water Purification Tests at Sunol Filter Plant.  
7397 Operation of Sunol Filter Plant.  
7470 Reservoir Readings.

1708 Emergency Phone for Water Department.  
2714 Building Surveillance.  
7426 Building Surveillance.

1706 Emergency Phone for Peninsula Division.  
7270 Supervision of Peninsula Watershed Keepers.  
7470 Surveillance of Peninsula Watershed.

FEBRUARY 12th (continued)

PENINSULA

3 - 1706	Telephone Operators	\$ 109
2 - 1936	Sr. Storekeepers	112
1 - 7270	Watershed Keeper Supervisor	54
11 - 7470	Watershed Keepers	<u>510</u>
		\$ 785

ALAMEDA

1 - 1446	Sr. Clerk Stenographer	\$ 41
1 - 7317	Sr. District Water Serviceman	70
5 - 7470	Watershed Keepers	<u>232</u>
		\$ 343
	TOTAL FEBRUARY 12th	<u>\$2,974</u>

FEBRUARY 22nd

PURIFICATION

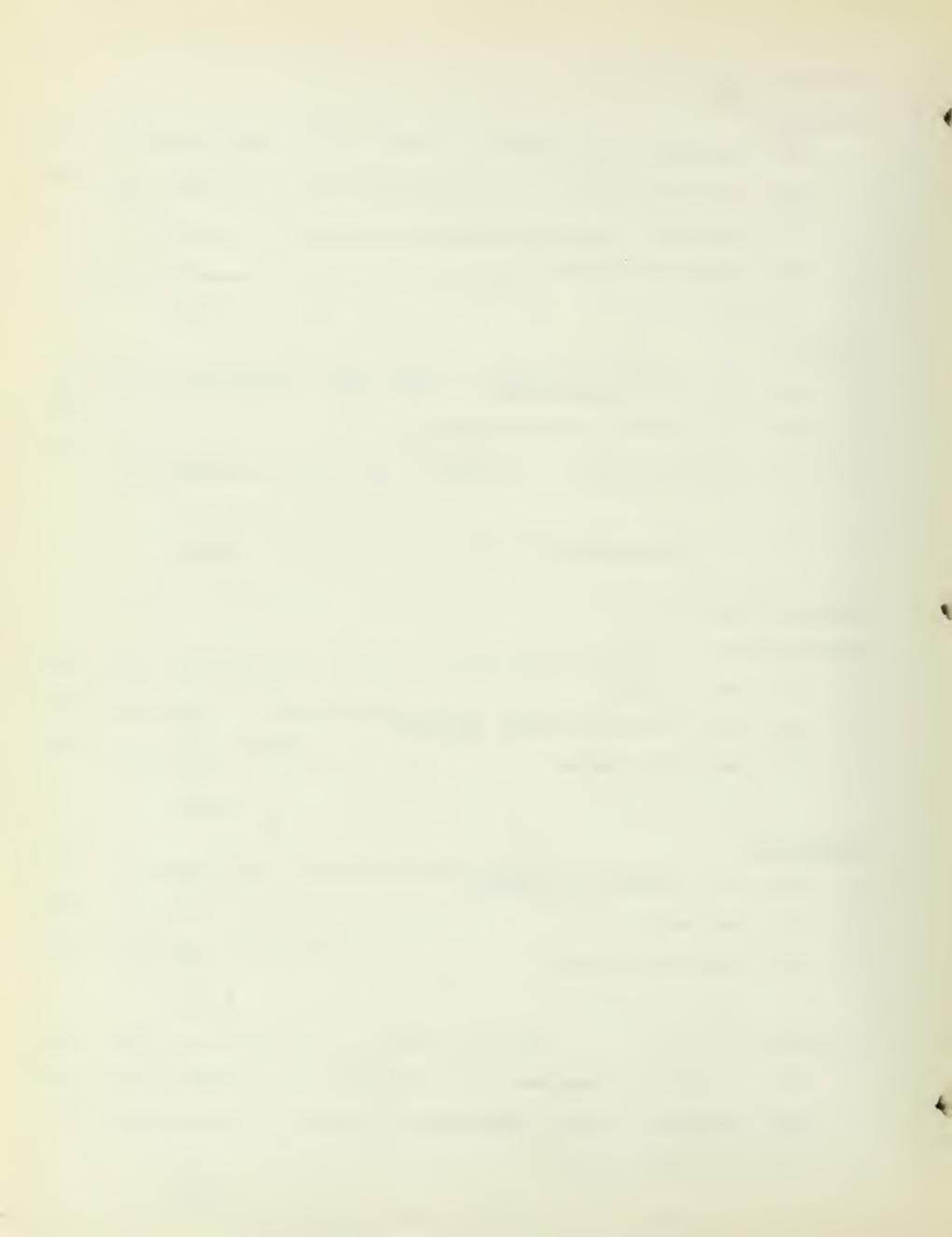
1 - 2470	Water Chemist	\$ 30
3 - 7397	Water Treatment Plant Operators	157
1 - 7470	Watershed Keeper	<u>46</u>
		\$ 233

COMMERCIAL

3 - 1708	Sr. Telephone Operators	\$ 114
2 - 2714	Janitors	76
1 - 7426	Elevator Operator	<u>35</u>
		\$ 225

PENINSULA

3 - 1706	Telephone Operators	\$ 109
1 - 7270	Watershed Keeper Supervisor	54
11 - 7470	Watershed Keepers	<u>510</u>
		\$ 673





7470 Surveillance of Alameda Watershed and  
Miscellaneous Water Level Readings.

1478 Answer Phones.

1708 Emergency Phone for Water Department.

7316 Field Men for Miscellaneous Services.

7426 Elevator Service.

1426 Answer Phones for City Distribution Division.

2470 Water Purification Tests at Sunol Filter Plant.

7397 Operation of Sunol Filter Plant.

7470 Reservoir Readings.

1708 Emergency Phone for Water Department.

2714 Building Surveillance.

FEBRUARY 22nd (continued)

ALAMEDA

5 - 7470 Watershed Keepers	\$ 232
TOTAL FEBRUARY 22nd	<u>\$1,363</u>

APRIL 4th

COMMERCIAL

1 - 1478 Sr. Water Services Clerk	\$ 18
1 - 1708 Sr. Telephone Operator	14
2 - 7316 District Water Servicemen	46
1 - 7426 Elevator Operator	<u>11</u>
	\$ 89

CITY DISTRIBUTION

1 - 1426 Sr. Clerk Typist	\$ 15
TOTAL APRIL 4th	<u>\$ 104</u>

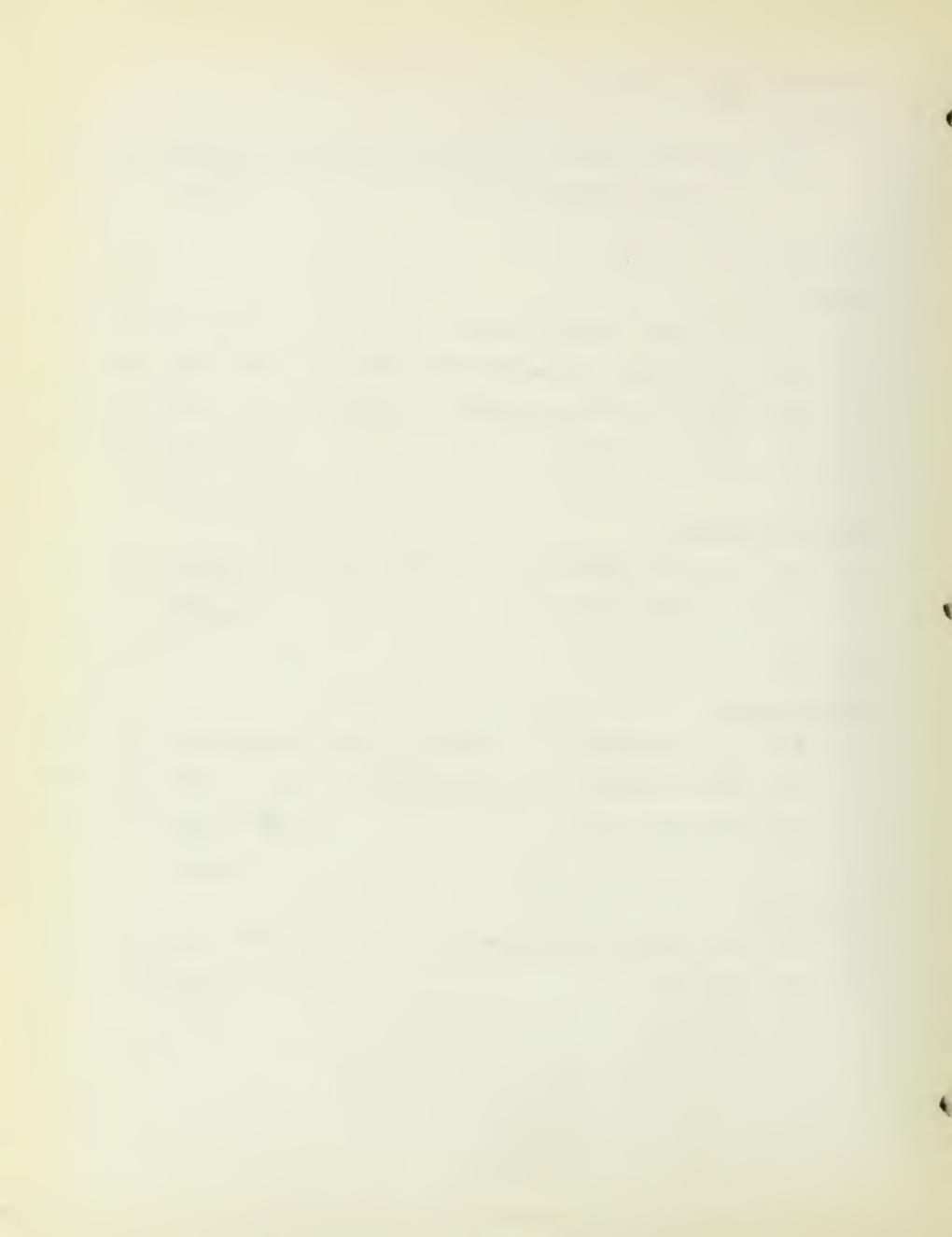
MAY 30th

PURIFICATION

1 - 2470 Water Chemist	\$ 30
3 - 7397 Water Treatment Plant Operators	157
1 - 7470 Watershed Keeper	<u>46</u>
	\$ 233

COMMERCIAL

3 - 1708 Sr. Telephone Operators	\$ 114
3 - 2714 Janitors	<u>114</u>
	\$ 228





- 1706 Emergency Phone for Peninsula Division.
- 7270 Supervision of Peninsula Watershed Keepers.
- 7470 Surveillance of Peninsula Watershed.
- 7470 Surveillance of Alameda Watershed and  
Miscellaneous Water Level Readings.

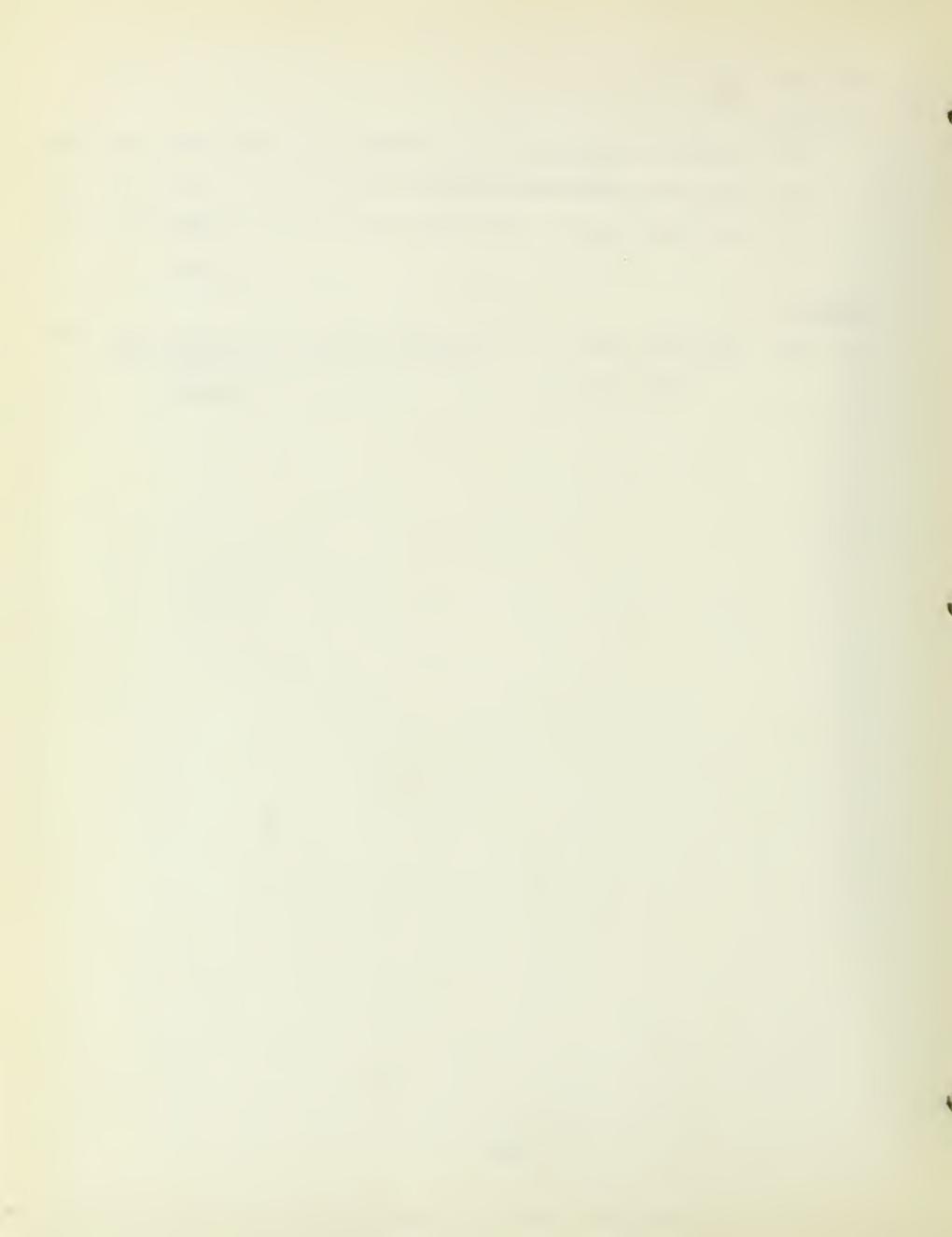
MAY 30th (continued)

PENINSULA

3 - 1706 Telephone Operators	\$ 109
1 - 7270 Watershed Keeper Supervisor	54
11 - 7470 Watershed Keepers	<u>510</u>
	\$ 673

ALAMEDA

5 - 7470 Watershed Keepers	\$ 232
TOTAL MAY 30th	<u>\$1,366</u>







EXTENDED WORK WEEK

EXECUTIVE

1 - 0-1 Chauffeur 49 days \$ 2,700

PURIFICATION

1 - 2470 Water Chemist 26 days 1,600

1 - 7470 Watershed Keeper 49 " 2,300

TOTAL PURIFICATION DIVISION \$ 3,900

COMMERCIAL

1 - 1708 Sr. Telephone Operator 52 days \$ 1,990

3 - 7316 Dist. Water Serviceman 156 " 9,680

1 - 7426 Elevator Operator 50 " 1,730

TOTAL COMMERCIAL DIVISION \$13,400

PENINSULA

1 - 7270 Watershed Keeper Sup. 48 days \$ 2,575

11 - 7470 Watershed Keepers 539 days 25,025

TOTAL PENINSULA DIVISION \$27,600

ALAMEDA

5 - 7470 Watershed Keepers 250 days \$11,593

T O T A L \$59,193

NO NEW POSITIONS REQUESTED FOR EXTENDED WORK WEEK.  
This year's increase covers mandatory salary  
increases received by three employees during the  
fiscal year.







22 - TEMPORARY SALARIES - \$84,776

EXECUTIVE	\$ 5,000
ACCOUNTING	3,675
PURIFICATION	4,076
ENGINEERING	800
COMMERCIAL	38,350
CITY DISTRIBUTION	26,000
PENINSULA	2,275
ALAMEDA	<u>4,600</u>
TOTAL	<u>\$84,776</u>

<u>Year</u>	<u>Budgeted Amount</u>	<u>Transfer</u>	<u>Total Expended</u>
1964-65	52,500	--	47,247
1965-66	56,680	--	49,254
1966-67	59,236	15,000	73,081
1967-68	63,000	12,000	43,518 to Dec. 31





EXECUTIVE

Provide vacation relief for Executive Division secretarial staff.

Provide vacation relief for the Executive Division staff.

ACCOUNTING

Provide vacation relief for the Payroll Section.

Provide vacation relief for Clerk Typists in the Division.

Provide partial vacation relief for the Accounting Section.

Typing of 1969-70 S.F.W.D. Budget

PURIFICATION

Provide vacation relief for office staff of the Division.

Replacement of laboratory personnel in Division.

This temporary typist will be deleted if corresponding permanent position requested elsewhere in the budget is approved.

ENGINEERING

Provides replacement for the Clerk Typist and Clerk Stenographer in this Division.

22 - TEMPORARY SALARIES

EXECUTIVE - \$5,000

<u>Section or Division Complement</u>	<u>VACATION RELIEF</u>		
(3)	1444 Clerk Stenographer	85 days	\$ 2,200
(5)	1840 Jr. Management Assistant	100 "	<u>2,800</u>
	TOTAL		<u>\$ 5,000</u>

ACCOUNTING - \$3,675

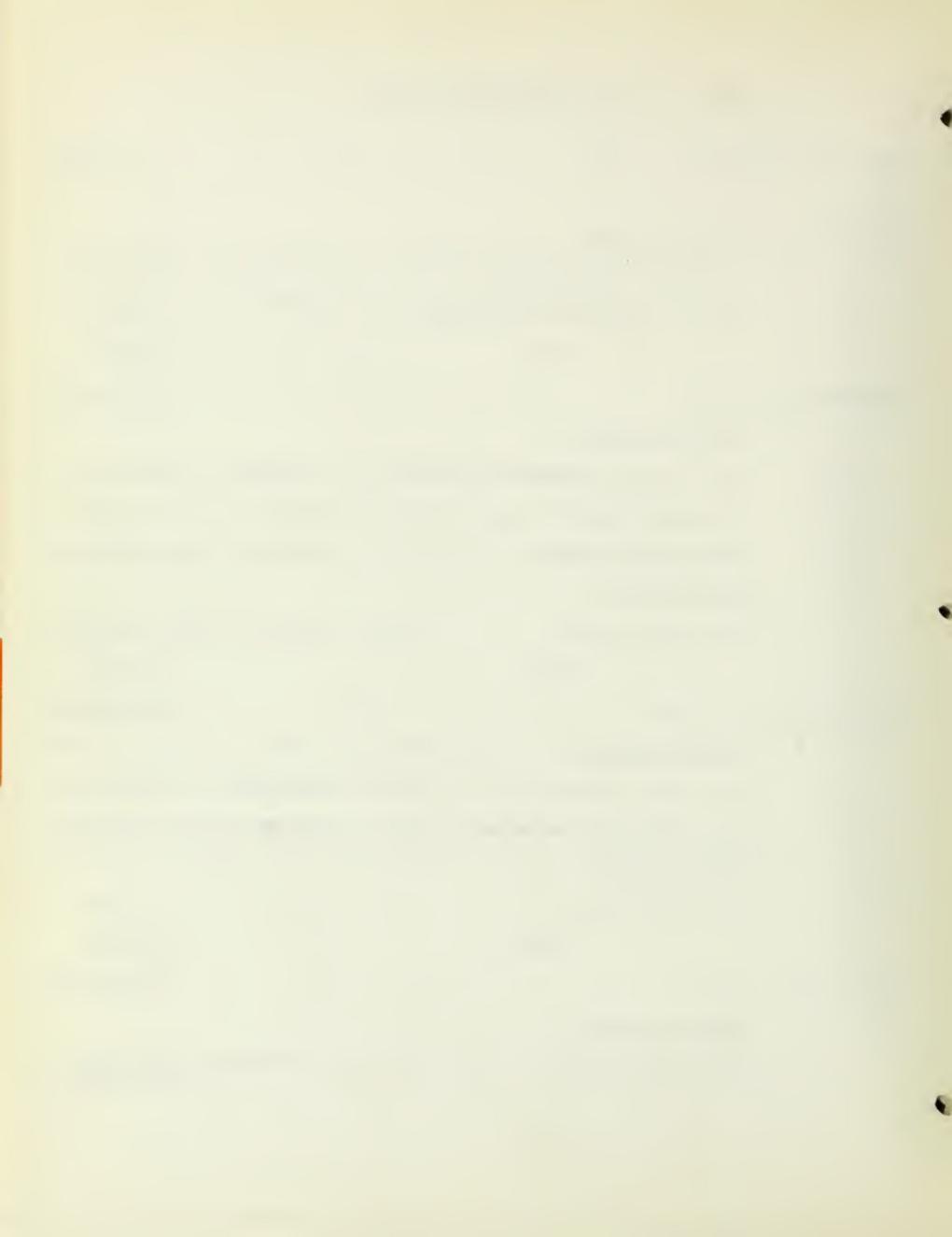
	<u>VACATION RELIEF</u>		
(5)	1220 Payroll & Personnel Clerk	70 days	\$ 1,575
(2)	1424 Clerk Typist	20 "	432
(5)	1630 Account Clerk	60 "	1,236
	<u>SEASONAL WORK</u>		
	1424 Clerk Typist	20 "	432
	TOTAL		<u>\$ 3,675</u>

PURIFICATION - \$4,076

	<u>VACATION RELIEF</u>		
(7)	1424 Clerk Typist	120 days	\$ 2,400
(14)	2416 Bac. Lab. Assistant	20 "	476
	<u>SEASONAL WORK</u>		
	1424 Clerk Typist	120 "	<u>1,200</u>
	TOTAL		<u>\$ 4,076</u>

ENGINEERING - \$800

	<u>VACATION RELIEF</u>		
(3)	1424 Clerk Typist	40 days	<u>\$ 800</u>





COMMERCIAL

Processes and mails water bills and processes incoming payments.

Partial replacements are necessary in the various sections of the Commercial Division in order to maintain essential work flow, including telephones and correspondence with customers and others; maintenance of customer and Departmental records; issuance of orders for the various customer services, collections, notices, reports, etc.

Replace the emergency telephone operators in the City.  
A replacement is needed in order to relieve the overtime charges.  
Replace the only Housekeeper in the building.

Replace each Janitor while on vacation in order to provide adequate janitorial service without using overtime funds.

Field services to the public, turn-ons, turn-offs, investigations, etc.

Processing contract service renewals.

CITY DISTRIBUTION

Provide vacation relief for the miscellaneous office staff of the Division.

Provide replacement for Janitors in the Division.

Vacation relief for Water Meter Repairmen in the Division.

To implement the Water Meter Repairman force for special meter changes.

PENINSULA

Provide vacation relief for the office staff of the Division.

Replacement of 2 District Water Servicemen in order to keep current the readings of the large Peninsula meters.

COMMERCIAL - \$38,350VACATION RELIEF

(1)	1402 Junior Clerk	10 days	\$ 165
(5)	1404 Clerk	20 "	400
(29)	1424 Clerk Typist	440 "	8,800
(7)	1444 Clerk Stenographer	65 "	1,360
(22)	1468 Water Services Clerk	175 "	4,150
(5)	1706 Telephone Operator	55 "	1,100
(1)	2706 Housekeeper	15 "	270
(8)	2714 Janitor	85 "	1,780
(29)	7316 District Water Serviceman	505 "	17,200

SEASONAL WORK

1468 Water Services Clerk	125 days	<u>3,125</u>
TOTAL		<u>\$38,350</u>

CITY DISTRIBUTION - \$26,000VACATION RELIEF

(12)	1426 Sr. Clerk Typist	160 days	\$ 3,500
(2)	2714 Janitor	40 "	900
(9)	7353 Water Meter Repairman	90 "	2,900

SEASONAL WORK

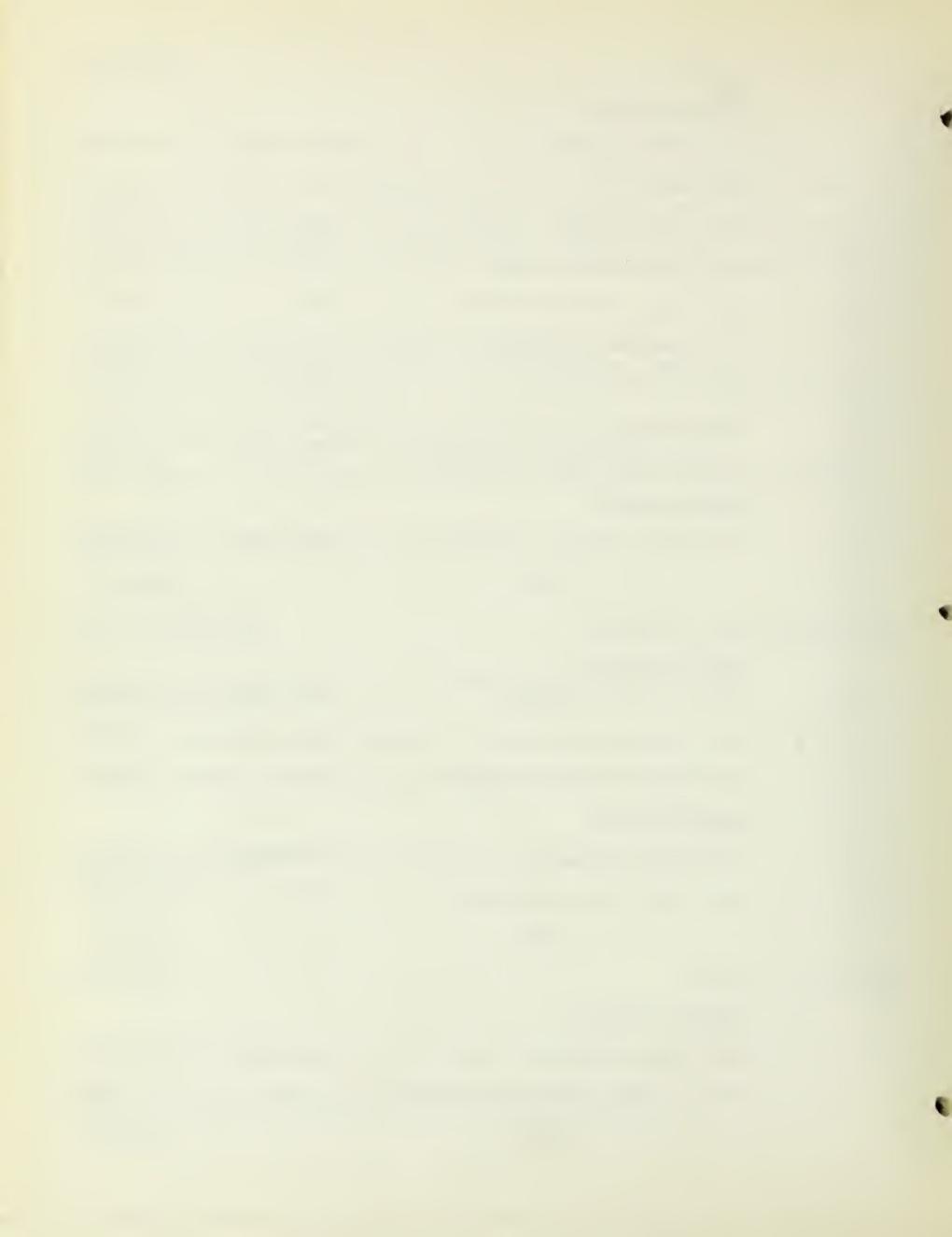
1630 Account Clerk	120 days	2,450
7353 Water Meter Repairman	500 "	<u>16,250</u>
TOTAL		<u>\$26,000</u>

PENINSULA - \$2,275VACATION RELIEF

(10)	1424 Clerk Typist	80 days	\$ 1,600
(2)	7316 District Water Serviceman	20 "	675

TOTAL

\$ 2,275





ALAMEDA

Replace the Clerk Stenographer in the Alameda Division.

Provide vacation and sick relief for a Watershed Keeper who will be on terminal leave.

Replacement needed to keep water regulations current in the Alameda Division.

This temporary typist will be deleted if corresponding permanent position requested elsewhere in the budget is approved.

ALAMEDA - \$ 4,600

VACATION RELIEF

(1)	1424 Clerk Typist	20 days	\$ 400
(1)	7470 Watershed Keeper	60 "	1,525
(3)	7316 District Water Serviceman	20 "	675

SEASONAL WORK

1424 Clerk Typist	100 days	<u>2,000</u>
TOTAL		<u>\$ 4,600</u>







23 - OVERTIME & TEMPORARY WAGES - \$566,600

(In order to meet existing work schedules and programs it is essential that all per diem employees be replaced while they are off on authorized vacations.)

PURIFICATION	\$ 2,600
ENGINEERING	50,000
COMMERCIAL	3,600
CITY DISTRIBUTION	314,000
MACHINE SHOP	20,000
PENINSULA	106,900
ALAMEDA	55,000
CONSTRUCTION	<u>14,500</u>
TOTAL	<u>\$566,600</u>



23 - OVERTIME & TEMPORARY WAGES

PURIFICATION - \$2,600

Section or  
Division  
Complement

Overtime

7334 Stationary Engineer	392 hrs. @ 6.555	\$ 2,600
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ENGINEERING - \$50,000

Vacation Relief

1 5312 Instrument Man	90 days @ 6.88*	\$ 413
1 5314 Survey Party Chief	30 " @ 3.70**	<u>111</u>

\$ 524

Overtime

5310 Survey Field Asst.	40 hrs. @ 7.18	\$ 287
5312 Instrument Man	40 " @ 8.54	341
5314 Survey Party Chief	40 " @ 9.23	369
6318 Construction Inspector	56 " @ 8.88	<u>479</u>

\$ 1,476

Seasonal

6318 Construction Inspector	1000 days @48.00	\$ 48,000
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TOTAL

\$ 50,000

\* Pay Differential between 5310 & 5312

\*\* " " " 5312 & 5314

COMMERCIAL - \$3,600

Vacation Relief

15 1466 Meter Reader	150 days @24.19	\$ 3,600
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## 23 - OVERTIME &amp; TEMPORARY WAGES

CITY DISTRIBUTION - \$314,000

Section or  
Division  
Complement

Vacation Relief

16	7250 Utility Foreman	250	days	@ 67.33	\$ 16,832
6	7328 Operating Engineer, Univ.	80	"	@ 40.20	3,216
2	7344 Carpenter	60	"	@ 45.88	2,753
3	7354 Truck Driver, Heavy	45	"	@ 40.28	1,813
35	7388 Utility Plumber	500	"	@ 59.32	29,662
22	7462 Utility Plumber Helper	310	"	@ 48.57	15,055
33	7514 General Laborer	500	"	@ 36.60	<u>18,300</u>

\$ 87,631Overtime

6318 Construction Inspector	75	hrs.	@ 8.88	\$ 666
7250 Utility Foreman	800	"	@ 19.23	15,384
7284 Utility General Foreman	400	"	@ 19.93	7,972
7328 Operating Engineer, Univ.	350	"	@ 9.65	3,377
7334 Stationary Engineer	416	"	@ 5.11	2,125
7344 Carpenter	300	"	@ 8.34	2,502
7354 Truck Driver, Heavy	600	"	@ 9.65	5,790
7388 Utility Plumber	3600	"	@ 16.95	61,025
7462 Utility Plumber Helper	1800	"	@ 14.02	25,270
7514 General Laborer	1500	"	@ 8.80	<u>13,200</u>

\$137,311Seasonal

6318 Construction Inspector	250	days	@ 48.48	12,120
7284 Utility General Foreman	250	"	@ 70.31	17,577
7346 Painter	120	"	@ 41.05	4,926
7388 Utility Plumber	500	"	@ 59.81	29,905
7462 Utility Plumber Helper	500	"	@ 49.06	<u>24,530</u>

\$ 89,058

TOTAL

\$314,000



23 - OVERTIME & TEMPORARY WAGES

MACHINE SHOP - \$20,000

Section or  
Division  
Complement

Vacation Relief

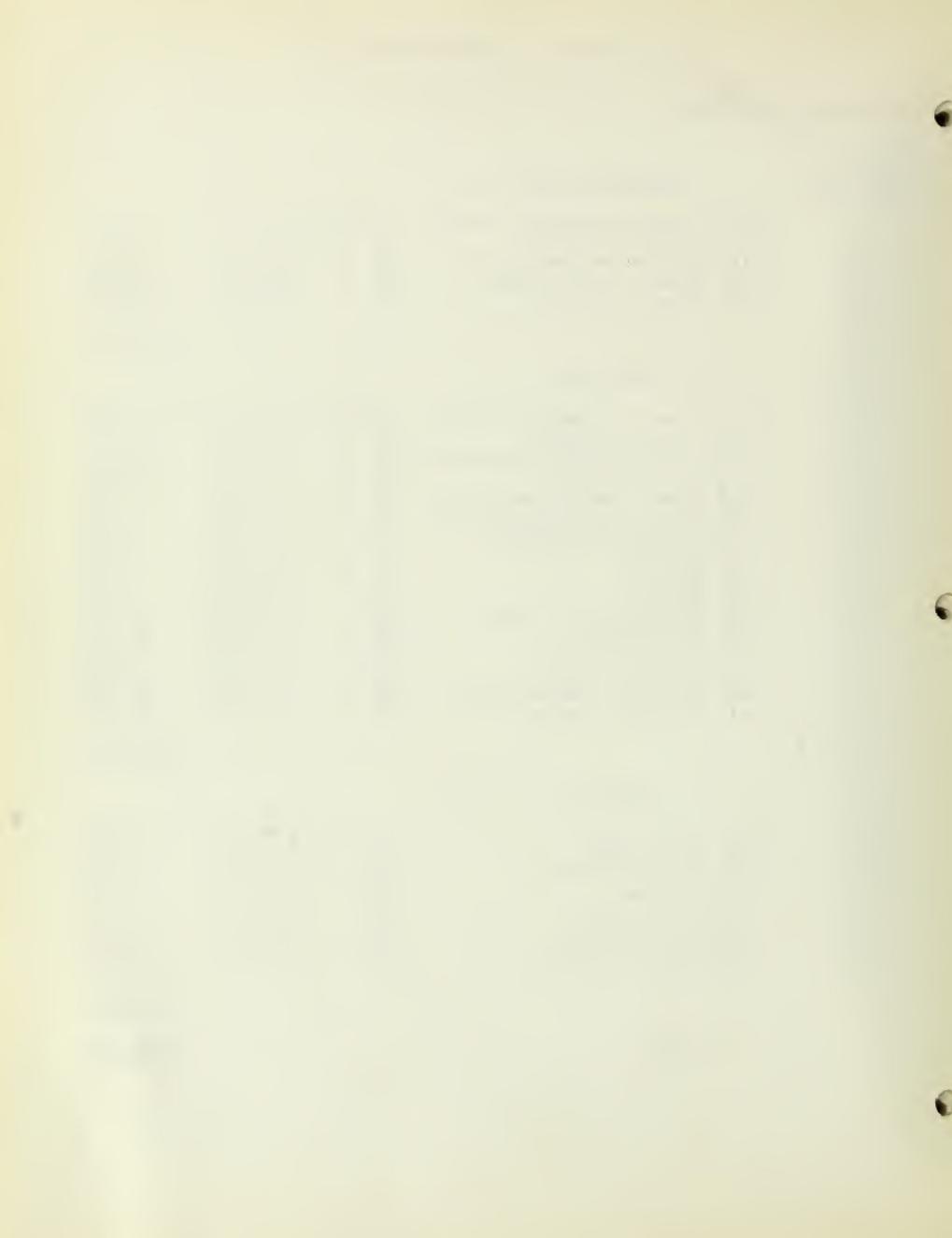
1	7306 Auto Body Worker	15 days @ 42.70	\$ 640
1	7309 Car & Auto Painter	15 " @ 39.44	592
5	7313 Auto Machinist	75 " @ 42.70	3,202
6	7343 Maintenance Machinist	90 " @ 34.96	3,146
2	7360 Pipe Welder	30 " @ 59.32	1,780
2	7410 Auto Serviceman	30 " @ 30.08	902
			<u>\$ 10,262</u>

Overtime

7254 Auto Machinist Foreman	60 hrs. @ 9.12	\$ 547
7306 Auto Body Worker	40 " @ 7.94	318
7309 Car & Auto Painter	20 " @ 7.40	148
7313 Auto Machinist	300 " @ 7.94	2,382
7343 Maintenance Machinist	450 " @ 7.22	3,249
7358 Pattern Maker	30 " @ 10.58	317
7360 Pipe Welder	150 " @ 17.09	2,555
7410 Auto Serviceman	40 " @ 5.55	222
		<u>\$ 9,738</u>

TOTAL

\$ 20,000



23 - OVERTIME & TEMPORARY WAGES

ALAMEDA - \$55,000

Section or  
Division  
Complement

Vacation Relief

13      7514 General Laborer      120 days @ 37.00      \$ 4,440

Overtime

7215 General Laborer Foreman	60 hrs.	@ 10.15	\$ 609
7250 Utility Foreman	160 "	@ 19.40	3,104
7328 Operating Engineer, Univ.	40 "	@ 9.72	388
7354 Truck Driver, Heavy	40 "	@ 9.60	384
7514 General Laborer	480 "	@ 8.80	4,230
			\$ 8,715

Seasonal

7313 Auto Machinist	250 days	@ 42.70	\$ 10,675
7328 Operating Engineer, Univ.	80 "	@ 40.20	3,216
7346 Painter	250 "	@ 41.05	10,262
7354 Truck Driver, Heavy	80 "	@ 40.28	3,222
7514 General Laborer	250 "	@ 37.00	9,440
7542 Watershed Worker	240 "	@ 20.96	5,030
			\$ 41,845

TOTAL

\$ 55,000

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23 - OVERTIME & TEMPORARY WAGES

CONSTRUCTION - \$14,500

Section or  
Division  
Complement

Vacation Relief

4	5312 Instrument Man	60 days @	7.28*	\$ 437
4	5314 Survey Party Chief	60 " @	3.72**	<u>223</u>
				\$ 660

Overtime

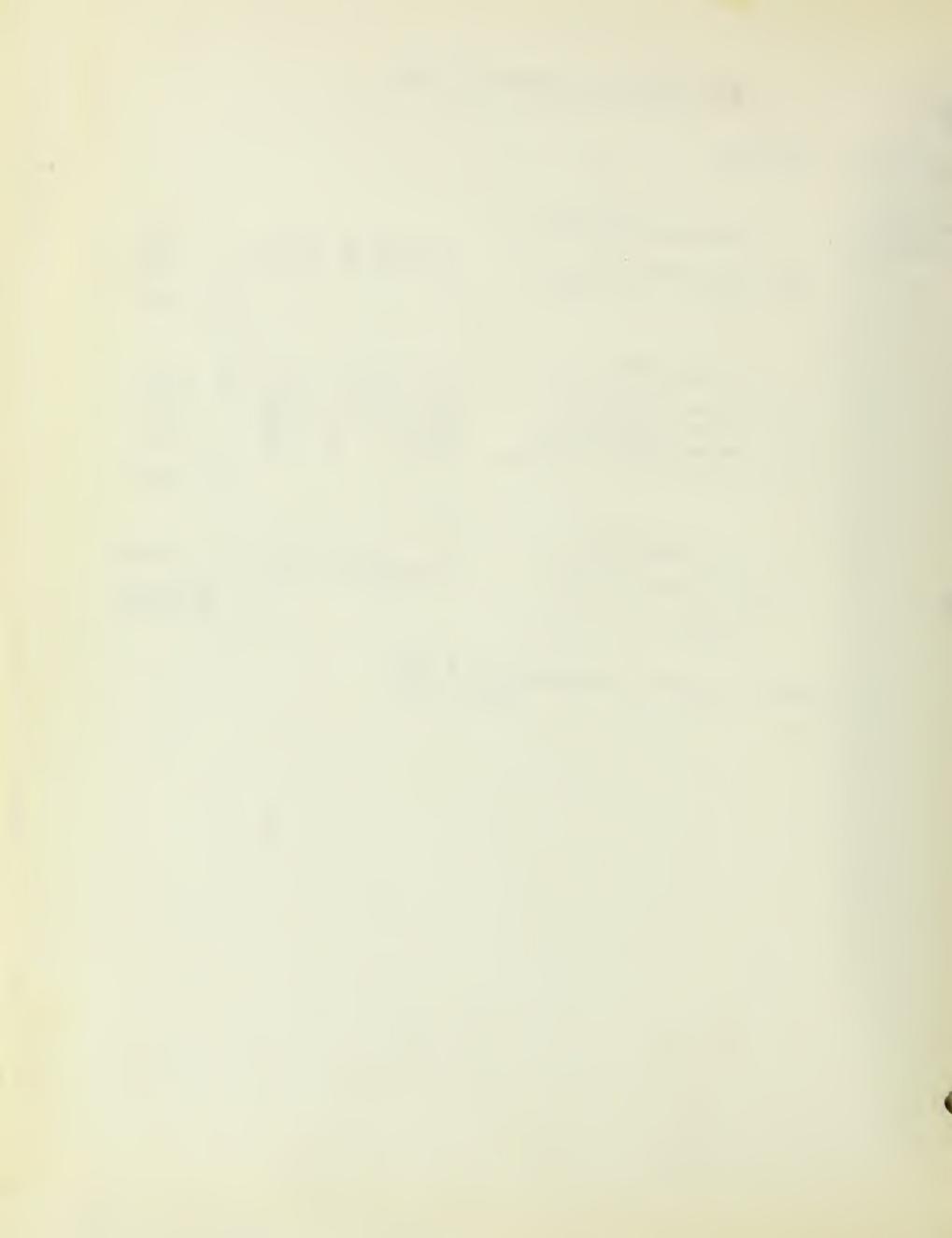
5310 Survey Field Asst.	240 hrs. @	7.24	\$ 1,738
5312 Instrument Man	120 " @	8.60	1,032
5314 Survey Party Chief	120 " @	9.30	1,116
6318 Construction Inspector	420 " @	8.94	<u>3,762</u>
			\$ 7,648

Seasonal

7542 Watershed Worker	300 days @	20.96	\$ 6,192
TOTAL			<u>\$ 14,500</u>

\* Pay Differential between 5310 \* 5312

\*\* " " " 5312 & 5314







1967-68  
to  
Dec. 31

		<u>1963-64</u>	<u>1964-65</u>	<u>1965-66</u>	<u>1966-67</u>	
201	Car Fare, )					
	Bridge Tolls )	\$ 2,929	\$ 3,207	\$ 3,575	\$ 3,382	\$ 1,530
202	Freight Exp.	163	204	217	55	7
203	Emp. Cars	15	66	178	206	4
204	Rent Trucks	200	1,640	8,848	6,578	2,935
205	Parking	4,080	3,880	4,322	4,649	2,830
206	Travel	2,129	1,746	2,858	4,704	1,056
207	Millbrae Fares	4,763	4,428	4,679	4,927	1,799
213	Rpr. Buildings	6,096	4,379	12,951	5,936	3,876
214	Galvanizing	2,053	1,361	1,270	336	1,325
215	Paving	167,881	84,905	104,125	126,750	54,194
217	Machine Shop (Wages)	84,020	87,191	112,270	117,640	66,251
218	Rpr. Off. Equip.	5,204	534	1,000	338	---
219	Pump Repair	3,165	3,714	3,631	10,441	1,898
232	Tel. & Tel.	31,338	35,395	38,282	45,397	21,002
233	Postage	53,943	51,002	58,641	60,745	24,202
234	Blueprint, )					
	Book Binding, )					
	Adv. )	5,553	5,627	6,539	6,801	3,245
235	Subscriptions	749	666	918	1,163	524
236	Laundry & Towels	1,691	2,236	2,304	3,667	1,870
237	Scavenger	876	902	574	362	186
241	Rntl. Off. Mach.	13,983	80	61	191	98
242	Rntl. Cons. Equip.	62	62	142	69	---
255	Demurrage	514	488	516	1,667	1,723
265	Animal Care	193	108	81	120	60
266	Sp. Eng. Serv.					10
268	Litigation Exp.	308	150	16	265	---
298	Realty Service	12,259	7,828	11,877	16,829	4,647
	Dept. P.W.	37,897	64,719	29,618	25,686	---
	Meter Repair Program					6,381

MISCELLANEOUS CONTRACTUAL SERVICES

216	Auto Equip. (Wages)	118,823	122,135	123,118	138,932	70,668
231	Light, Heat, Power	412	405	446	493	262
251	Subsistence	497	482	446	790	539
270	Bond Sale	560			5,266	---

CONTRACTUAL SERVICES HISTORY

<u>Year</u>	<u>Budgeted Amount</u>	<u>Transfer</u>	<u>Total Expended</u>
1964-65	\$394,457	\$ --	\$375,322
1965-66	397,010	30,000	431,704
1966-67	446,608	30,000	466,056
1967-68	524,770		203,103 to Dec. 31

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## MAIN LEAK DETECTION AND WATER CAPACITY SURVEY

This survey will again cover that portion of the City Distribution System which was surveyed six to seven years ago to discover leaks and to determine whether the program should be continued at the present rate or should be increased. That portion to be surveyed is in the downtown area. About 100 miles of mains will be surveyed.

As mains age, their ability to carry water is reduced by buildup of tubercular or deterioration of protective linings. This reduction is necessary to know so that these mains can either be replaced or the condition corrected by a process of cleaning and replacing an interior lining. This survey will measure the carrying capacity of various mains to determine their efficiency and the Water Department can then more intelligently program its main cleaning and lining program.

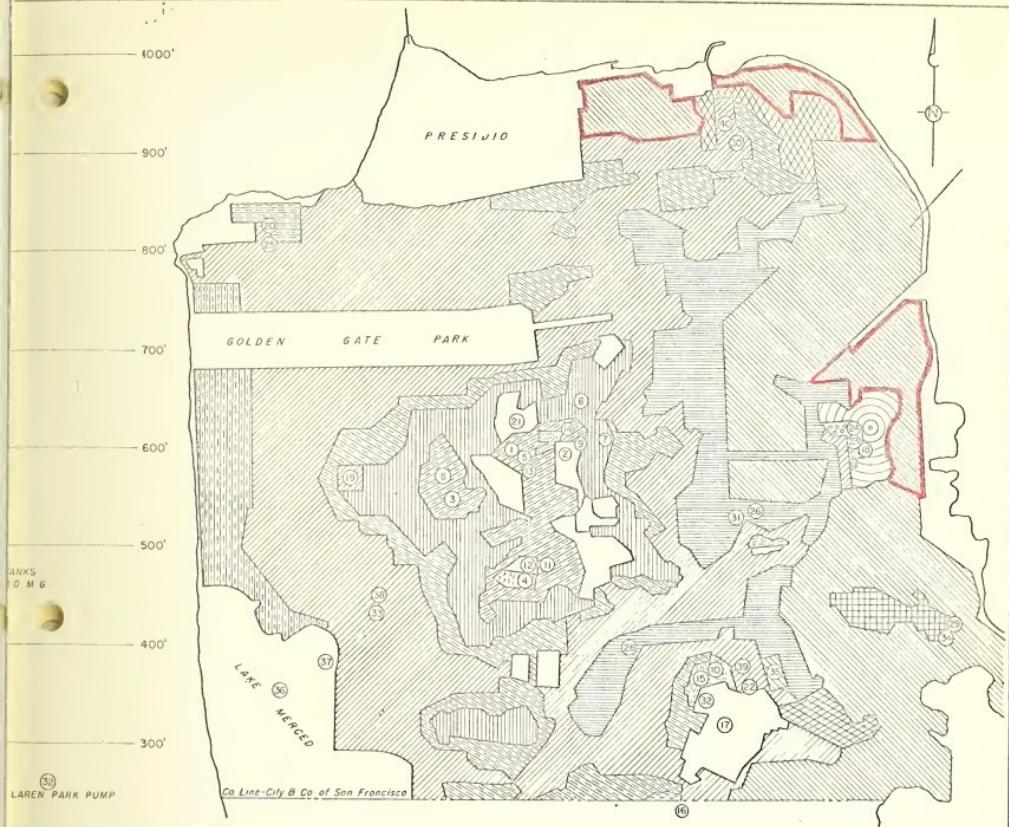
The survey for the first six years detected about 500 leaks with a loss of about 5,000,000 gallons per day. The retail value of this water at the lowest block is about \$800.00 per day. In addition, the early discovery of leaks reduces the damage and the cost of claims.

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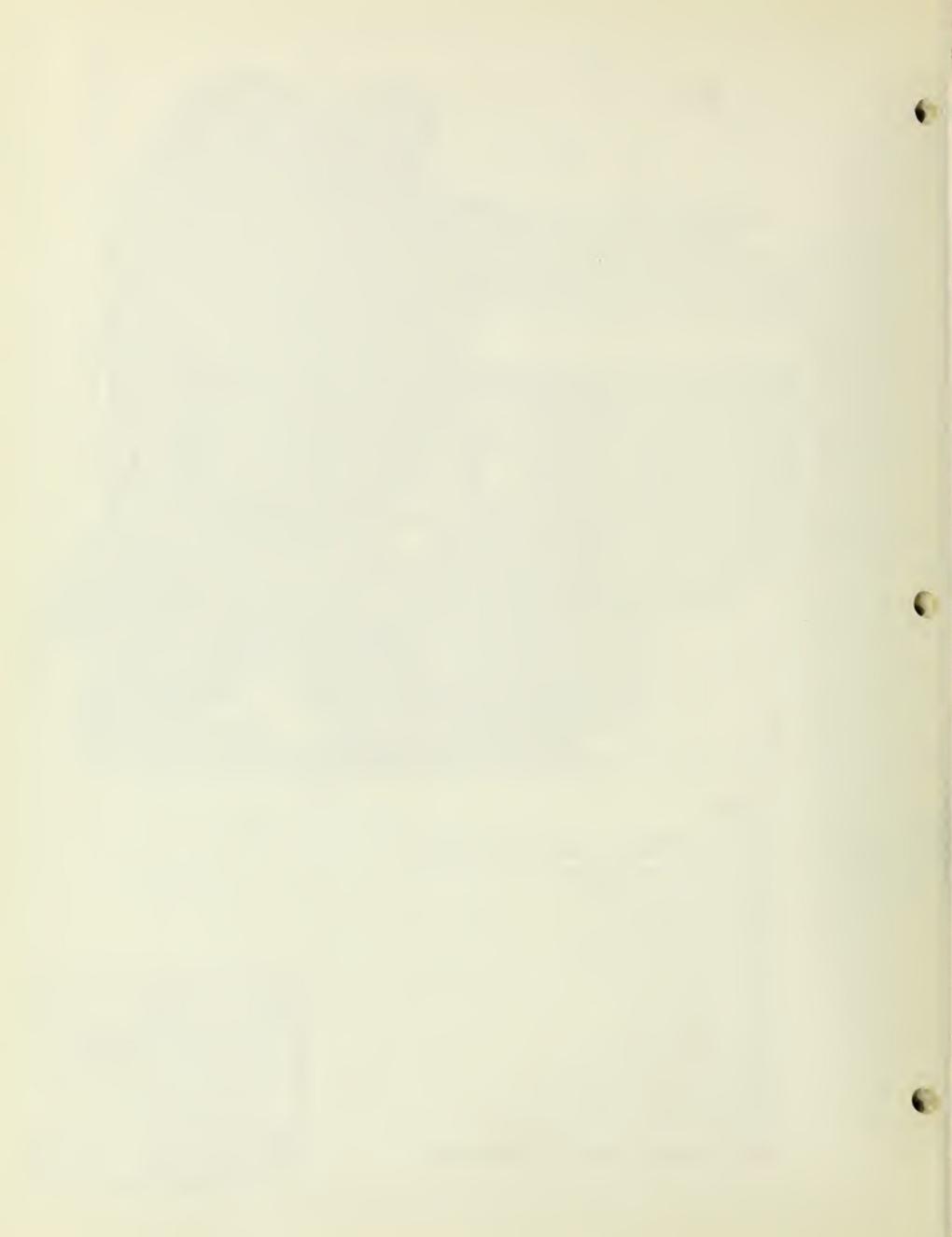


#### LEGEND

- [Symbol] SUNSET RESERVOIR.
- [Symbol] UNIVERSITY MOUND AND FRANCISCO STREET RESERVOIRS.
- [Symbol] STANFORD HEIGHTS RESERVOIR.
- [Symbol] COLLEGE HILL RESERVOIR.
- [Symbol] MERCED MANOR RESERVOIR.
- [Symbol] SUMMIT RESERVOIR.
- [Symbol] SUTRO RESERVOIR.
- [Symbol] LOMBARD STREET RESERVOIR.
- [Symbol] POTRERO HEIGHTS RESERVOIR.
- [Symbol] MCALLEN PARK TANK.
- [Symbol] MT. DAVIDSON TANK.
- [Symbol] LA GRANDE TANK.
- [Symbol] KEITH STREET TANK.
- [Symbol] POTRERO HEIGHTS TANK.
- [Symbol] LINCOLN PARK PUMP B TANK.
- [Symbol] PALO ALTO AVE. PUMP STATION.
- [Symbol] CROCKER AMAZON PUMP STATION.
- [Symbol] BERNAL HEIGHTS PUMP

+ 67		REVISION I	BY DATE	
+	DATE			
REVISIONS				
CAUTION: CHECK WITH TRACERS TO SEE IF YOU HAVE LATEST REVISION				
CITY AND COUNTY OF SAN FRANCISCO PUBLIC UTILITIES COMMISSION SAN FRANCISCO WATER DEPARTMENT				
SCHEMATIC DIAGRAM OF CITY DISTRIBUTION SYSTEM				
JULY 1965		RW	RW	DEC 1965
JULY 1965		"	"	"
JULY 1965		"	"	"
At Shown				
E-3728				

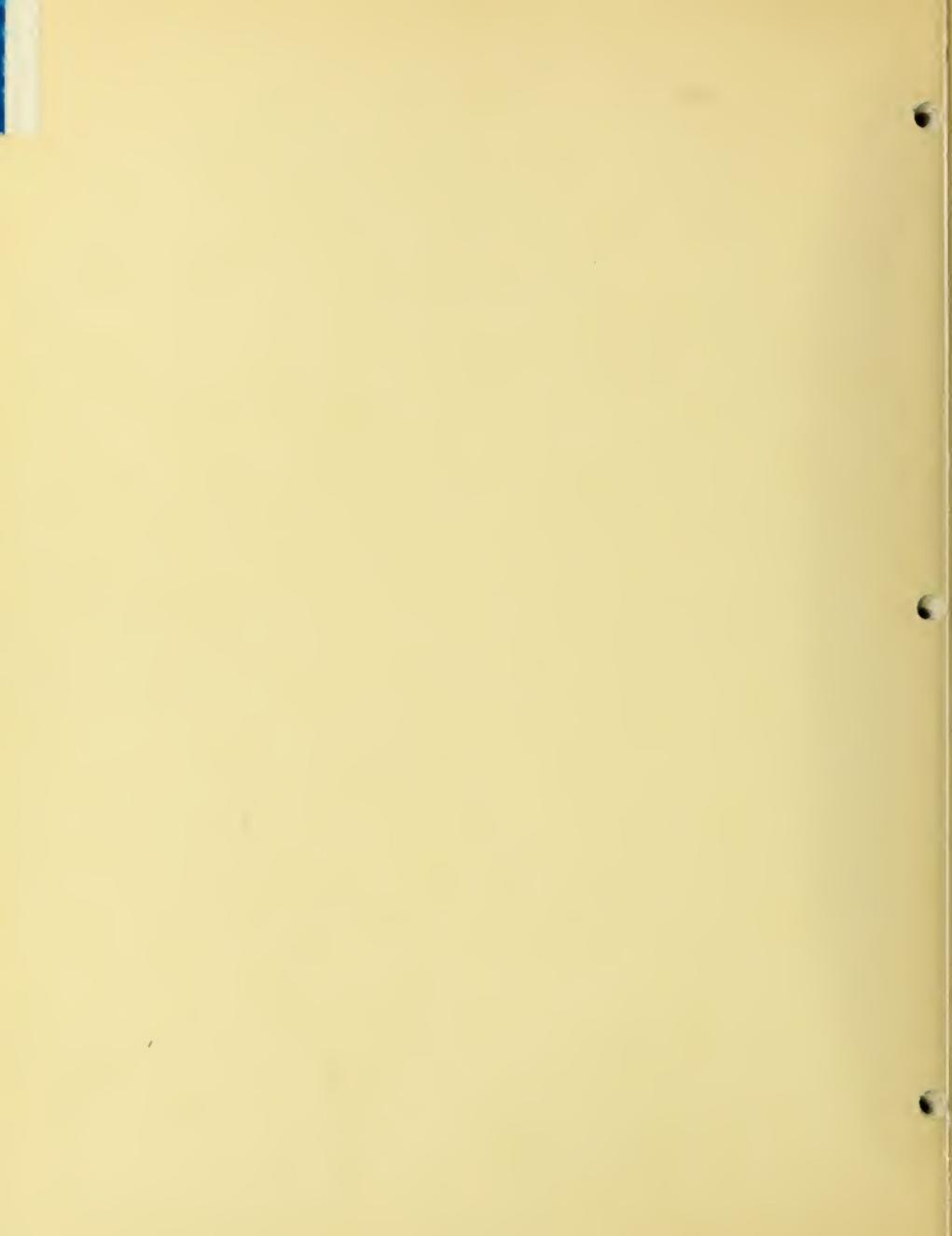
*W.M. McNamee*



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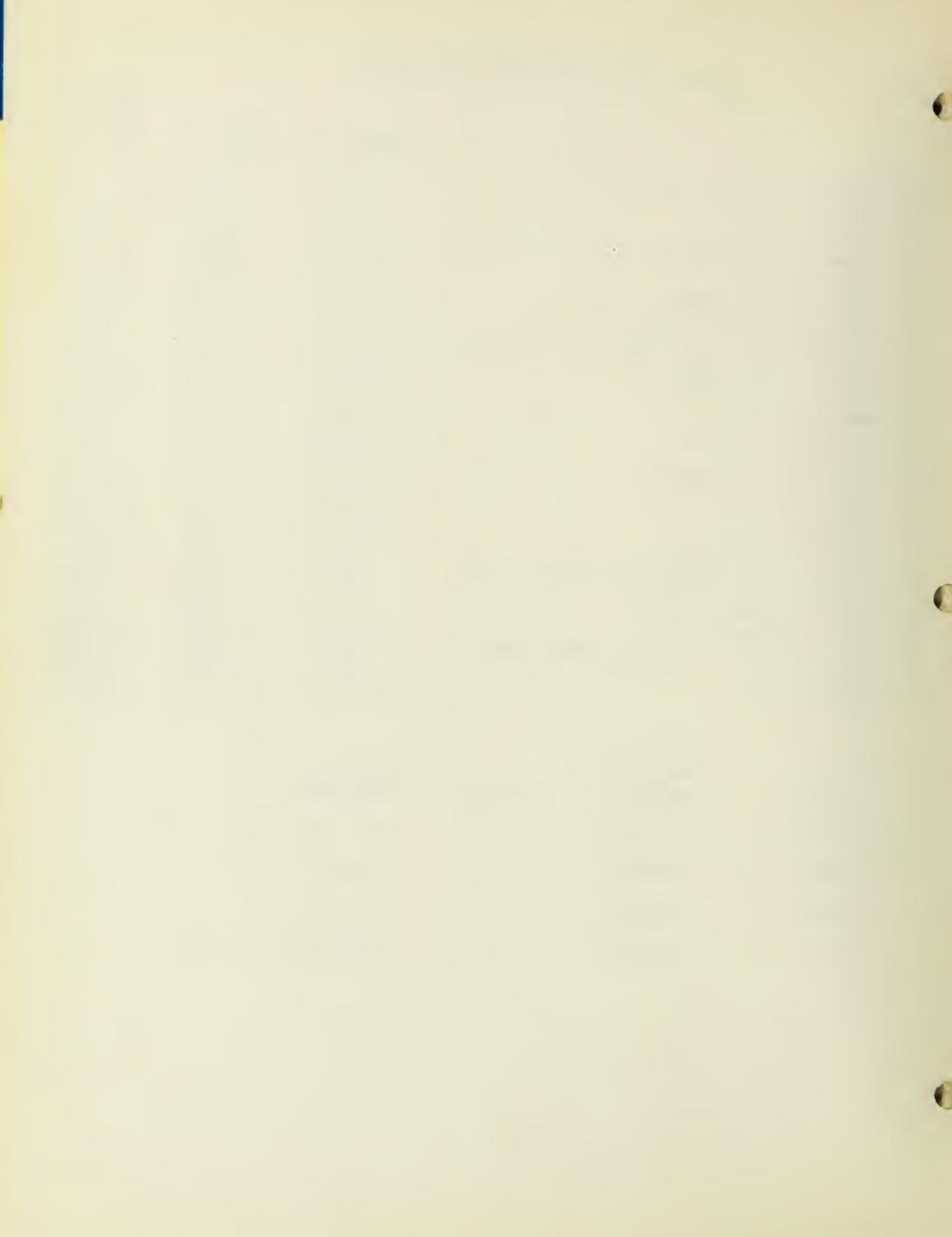
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## 50 - MATERIALS &amp; SUPPLIES

			1967-68 to Dec. 31
	<u>1965-66</u>	<u>1966-67</u>	
323 Fenders, Parts, Supplies	\$ 7,593	\$ 9,898	\$ 5,143
325 Spark Plugs, etc.	5,188	6,817	3,405
326 Tires & Tubes	9,957	11,597	5,585
329 Oil Filters, etc.	14,092	18,127	9,887
337 Shovels, Chisels, Bits	3,762	4,769	2,492
345 Water Heaters	6,134	8,929	4,577
347 Pipe, Tubing, Bends, etc.	35,198	50,468	29,353
348 Nuts, Rings, Valves	15,239	10,445	4,134
351 Calking Tools, Dies, Saddle Taps, etc.	8,579	11,506	2,704
353 Bolts, Hinges, Tie Rods	8,098	8,247	5,176
355 Lumber, Wood Plugs	25,089	27,587	16,823
356 Meter Box Covers	46,866	42,572	18,423
359 Wood Shingles	8,097	10,218	4,236
361 Batteries, Wiring	4,188	15,507	1,572
365 First Aid Kits	2,007	1,152	200
366 Meter Parts, Meters	40,833	54,146	28,138
367 Photo Supplies	4,281	3,305	932
368 Chemicals	249,128	282,000	203,428
375 Office Supplies	26,714	38,396	12,872
379 Brooms, Auto Polish	2,789	3,238	1,692
380 Paints, Thinners, Sealing Compounds	8,826	9,450	6,408
384 Gloves, Vests, Boots	3,724	3,730	1,394
387 Trees, Bushes	2,806	4,898	695
391 Gas, Kerosene, Oil	58,793	66,080	36,906
393 Rubber Sheeting, Oakum Packing Mat.	3,467	2,584	1,865
395 Steel Bars	2,379	3,014	2,092
399 Miscellaneous	22,702	24,219	14,051

Year	Budgeted Amount	Transfer	Total Expended
1964-65	\$507,780	\$10,000	\$516,942
1965-66	577,645	55,000	626,567
1966-67	753,000	--	732,899
1967-68	763,000	--	424,183 to Dec. 31

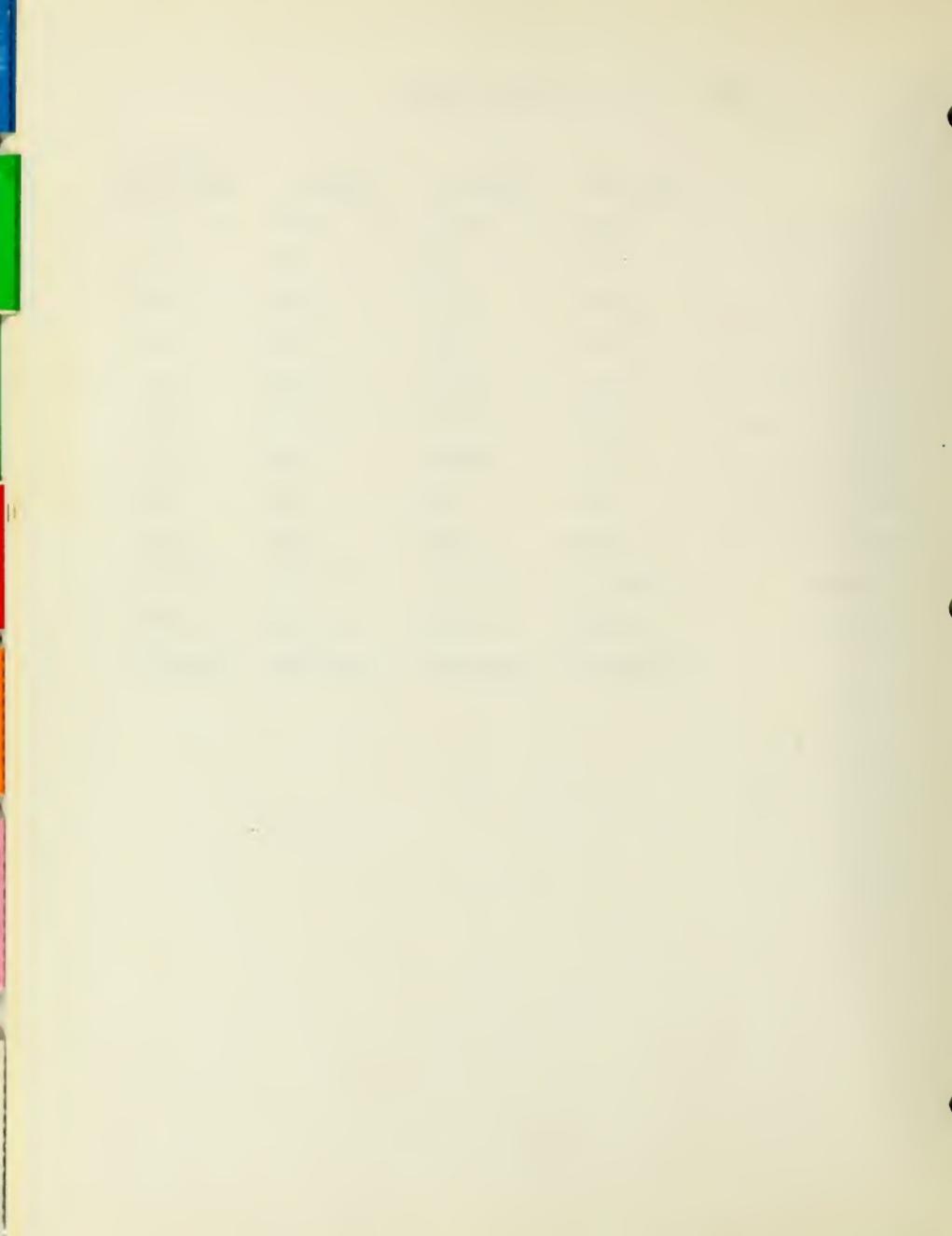


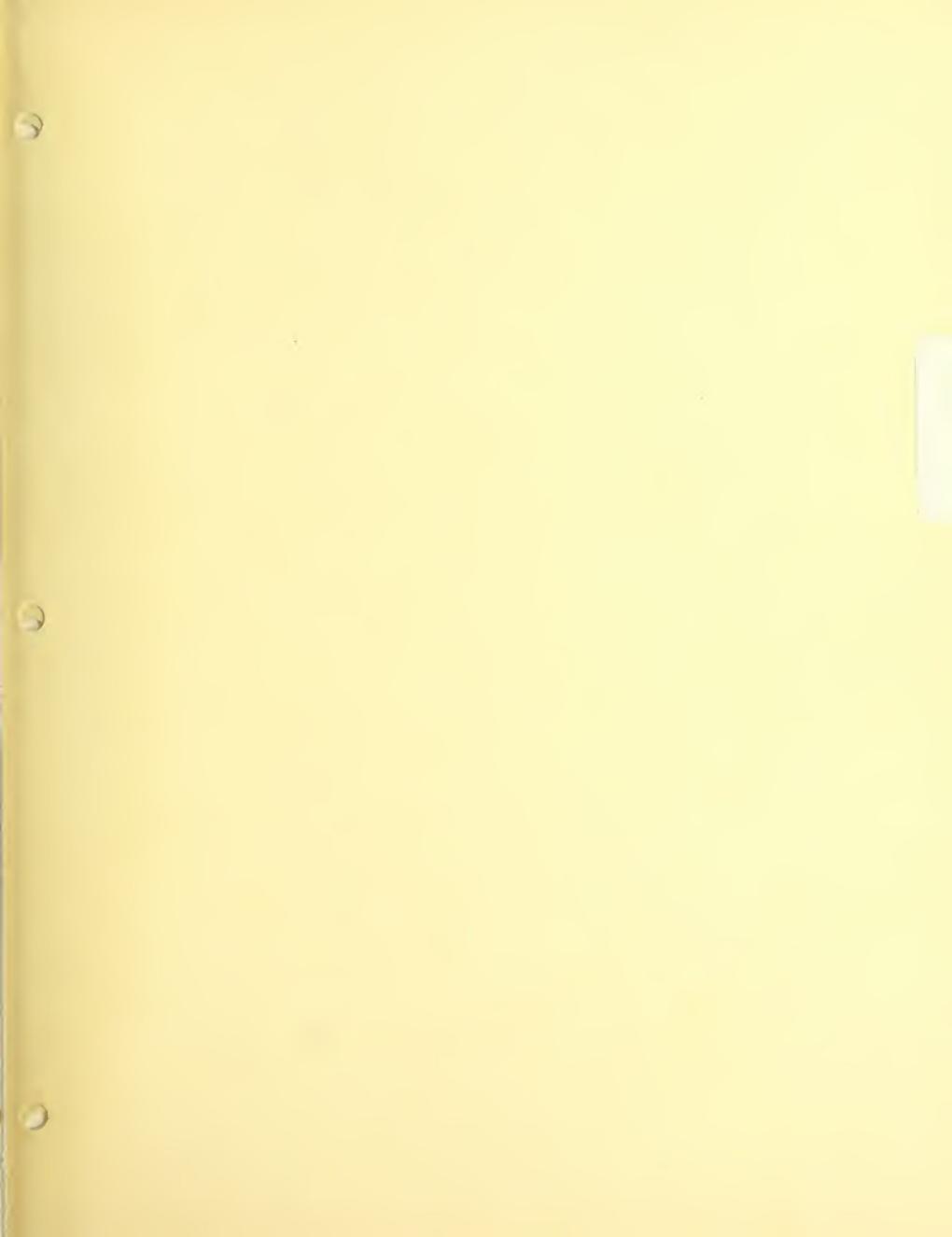




51 - 65 FIXED CHARGES

	<u>1964-65</u>	<u>1965-66</u>	<u>1966-67</u>	<u>1967-68 to Dec. 31</u>
804 Damages	\$ 19,456	\$ 46,126	\$ 23,615	\$ 9,394
812 Fidelity	810	750	825	1,250
813 Auto	12,991	13,158	11,813	12,762
814 Fire	2,310	2,310	2,310	3,566
815 Liability	11,105	10,221	9,457	9,157
820 Collections	18,810	18,484	17,983	8,454
853 Assessments	1,472	18,661	4,562	30,271
854 Memberships	495	525	510	320
855 St. Openings	7,098	7,338	7,498	4,934
870 Taxes	1,044,537	1,002,177	1,087,047	545,991
880 Rents	<u>1,434</u>	<u>1,428</u>	<u>1,442</u>	<u>650</u>
	<u>\$1,120,518</u>	<u>\$1,121,178</u>	<u>\$1,167,062</u>	<u>\$626,749</u>







San Andreas Filtration Plant  
\$2,225,000.

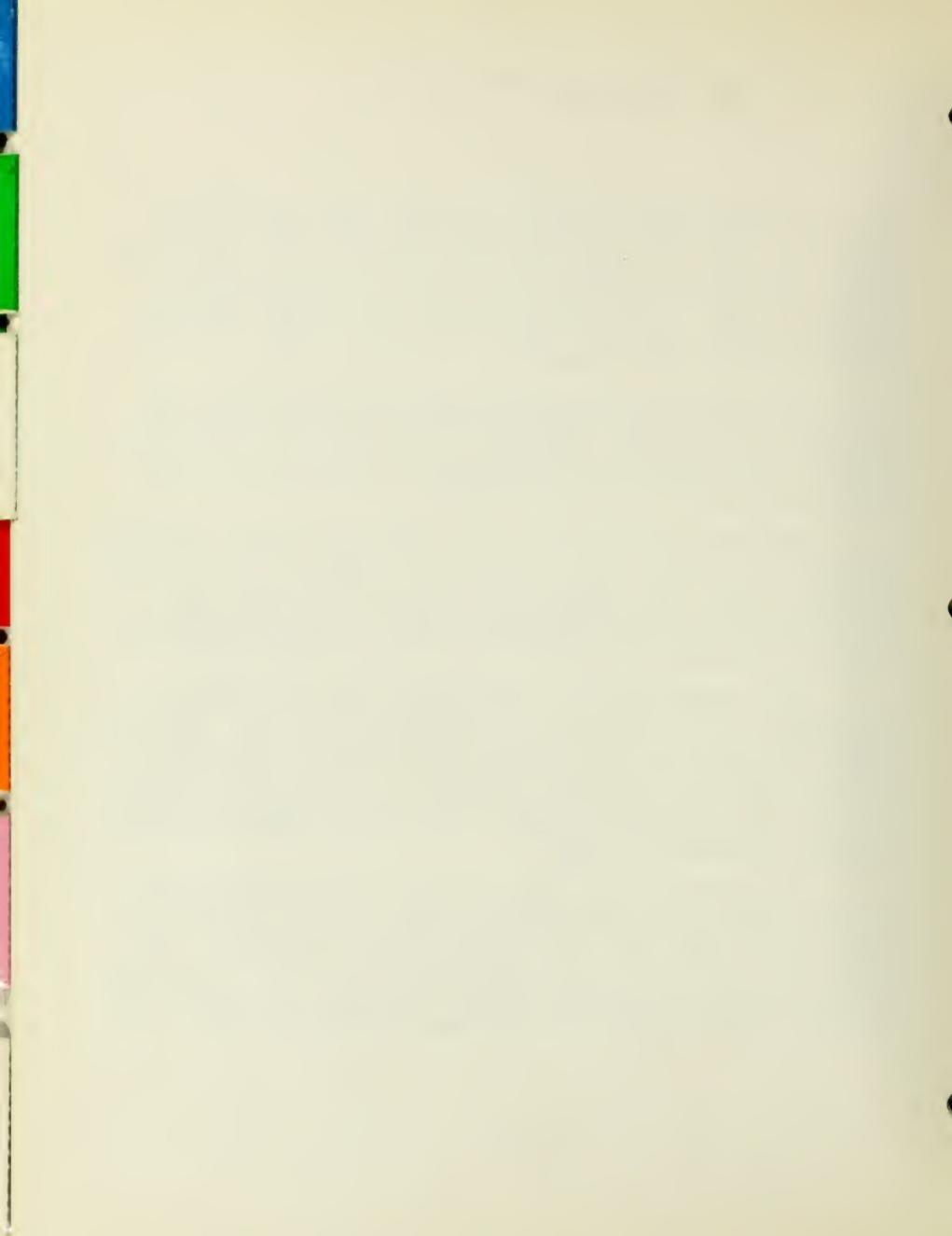
Construction of this water treatment plant is overdue as the Water Supply Permit issued by the State Department of Health in December 1963 included a requirement that the San Andreas Filtration Plant be in operation about December 1967. The drinking water standards established by the United States Public Health Service and adopted for controls by the State Health Department have become more stringent and filtration of the water withdrawn from San Andreas reservoir is now a necessity in order to insure compliance with their standards.

In conformity with the Water Supply Permit condition and to provide treatment facilities necessary to furnish water that will meet drinking water standards, a consulting firm was employed in March 1965 to prepare plans and specifications for this plant which was estimated to cost \$5,600,000 for the first unit of 40 million gallons per day nominal capacity.

Sufficient funds have not been available to award a contract for the first complete unit and therefore a split in the work is proposed and the above sum is requested to perform the first stage of construction. This amount will complete the earthwork and grading, a clear water reservoir, the necessary pumping station, and connecting pipe line and appurtenances. A second contract to complete the plant can follow as soon as funds are available.

This appropriation will immediately start construction of this vitally needed plant and can reduce the time of getting a filtration plant in operation by approximately one year. Furthermore, the pump station and reservoir can be put to use immediately after completion, raising the hydraulic head on the San Andreas 54" line and thus increasing the capacity of this line an average of 25%. This line supplies water to our Sunset reservoir distribution system and reserve capacity is now critical during emergency and peak consumption periods.

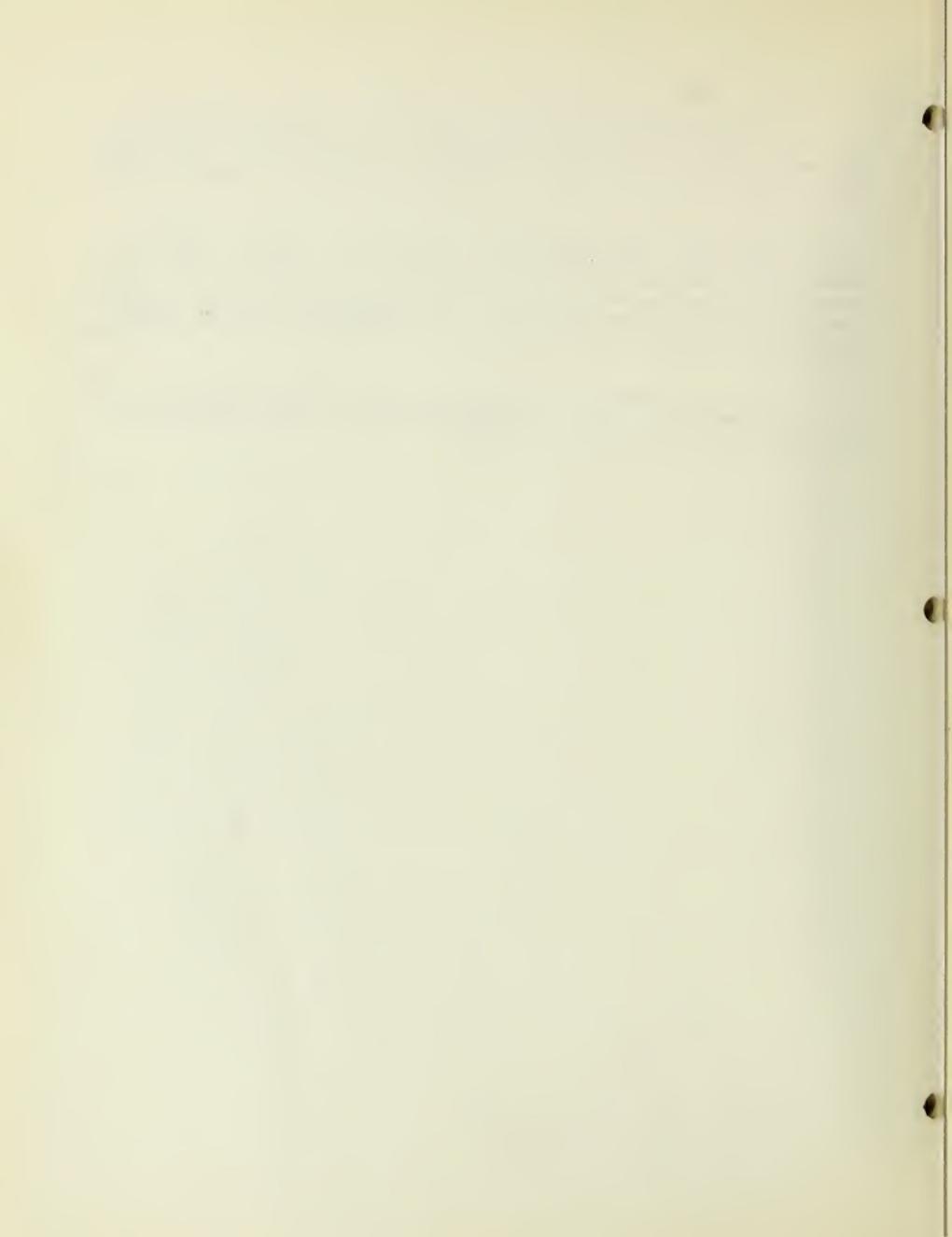
The proposed filter plant is to be of conventional design for the reduction of objectionable physical characteristics such as taste, odor, color and turbidity. Also equally important, the water will be made safe from a bacteriological standpoint. The plant will include a raw water pumping station, inlet works, operations building, flocculation-sedimentation structures, rapid sand filters, chemical storage and feeding facilities, wash water tank filtered water reservoir, and waste wash water drain line.



The units contemplated for immediate construction include the 6.5 million gallon clear water reservoir, exterior piping and raw water pumping station. The grading, including off site disposal of some 330,000 cu. yds. of surplus material is also included.

The water from San Andreas reservoir is used to supply Sunset reservoir. The difference in elevation between the high level of San Andreas and Sunset reservoirs is only 60 feet. This severely limits the amount of water that may be delivered through the 54-inch San Andreas pipeline. The proposed raw water pumping plant will increase this differential so that flow will be increased about 25%.

The site location and elevations have been determined. The site selected is at such an elevation that all major features of the plant will be on natural ground.







BALANCING RESERVOIR,  
CRYSTAL SPRINGS BYPASS TUNNEL  
and PIPELINE

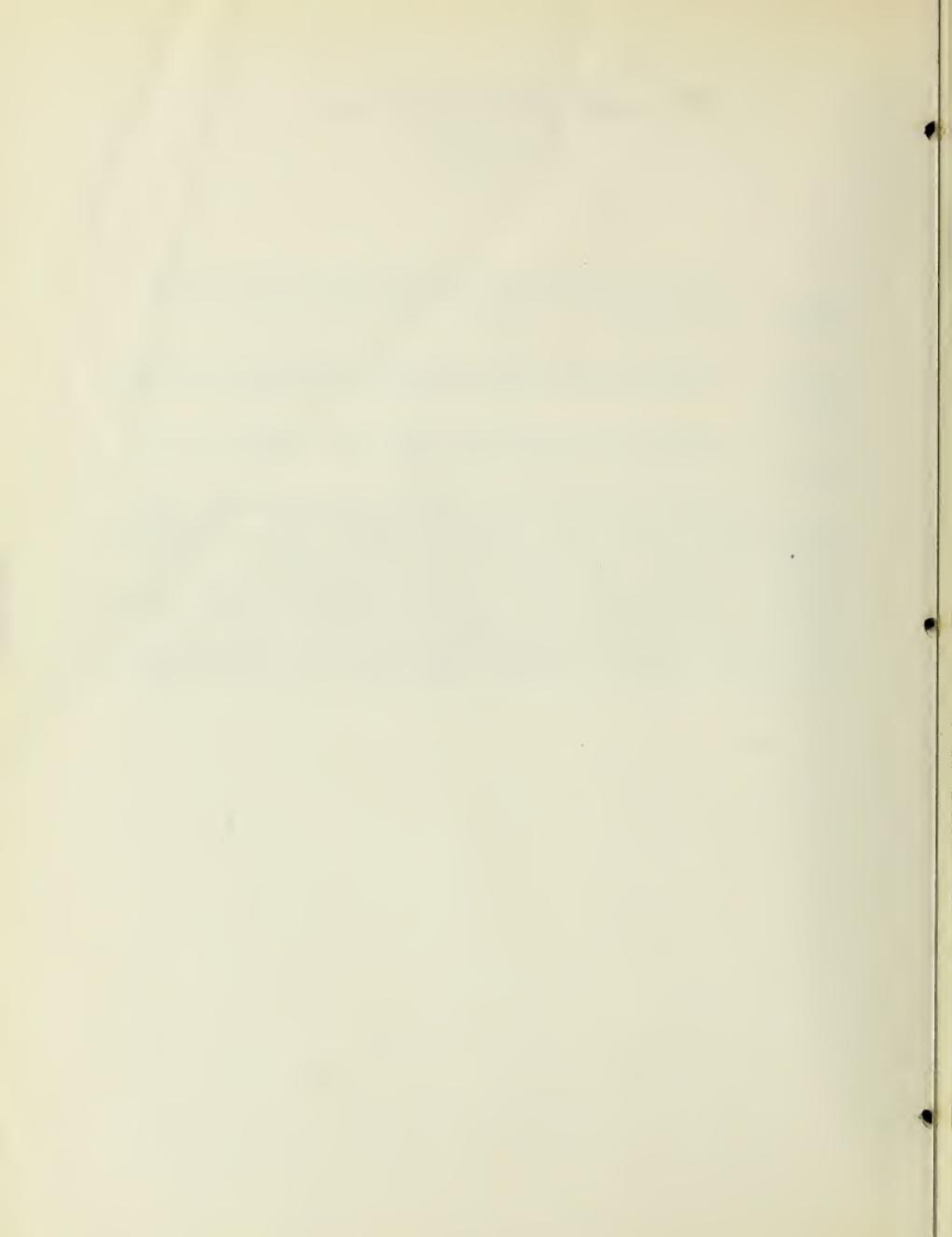
\$1,800,000

The proposed reservoir will be placed on the Crystal Springs bypass pipeline to equalize the flow through the tunnel and pipeline.

The reservoir will have a capacity of about 25 million gallons. The capacity of the pipeline is 215 million gallons per day.

In addition, the reservoir will reduce surges in the pipeline and thereby prevent failures.

The bypass pipeline and tunnel, when completed, will bring water directly into the San Francisco Water Department distribution system without entering Crystal Springs reservoir. During periods of heavy rainfall and other periods of heavy algal growth this will allow the Water Department to provide water of higher quality than it has in the past. Under normal operating conditions the reservoir would fill during the hours of low consumption and empty during high flows. It is normally less expensive to obtain higher flows by the construction of reservoirs than to oversize the piping and pumping units.



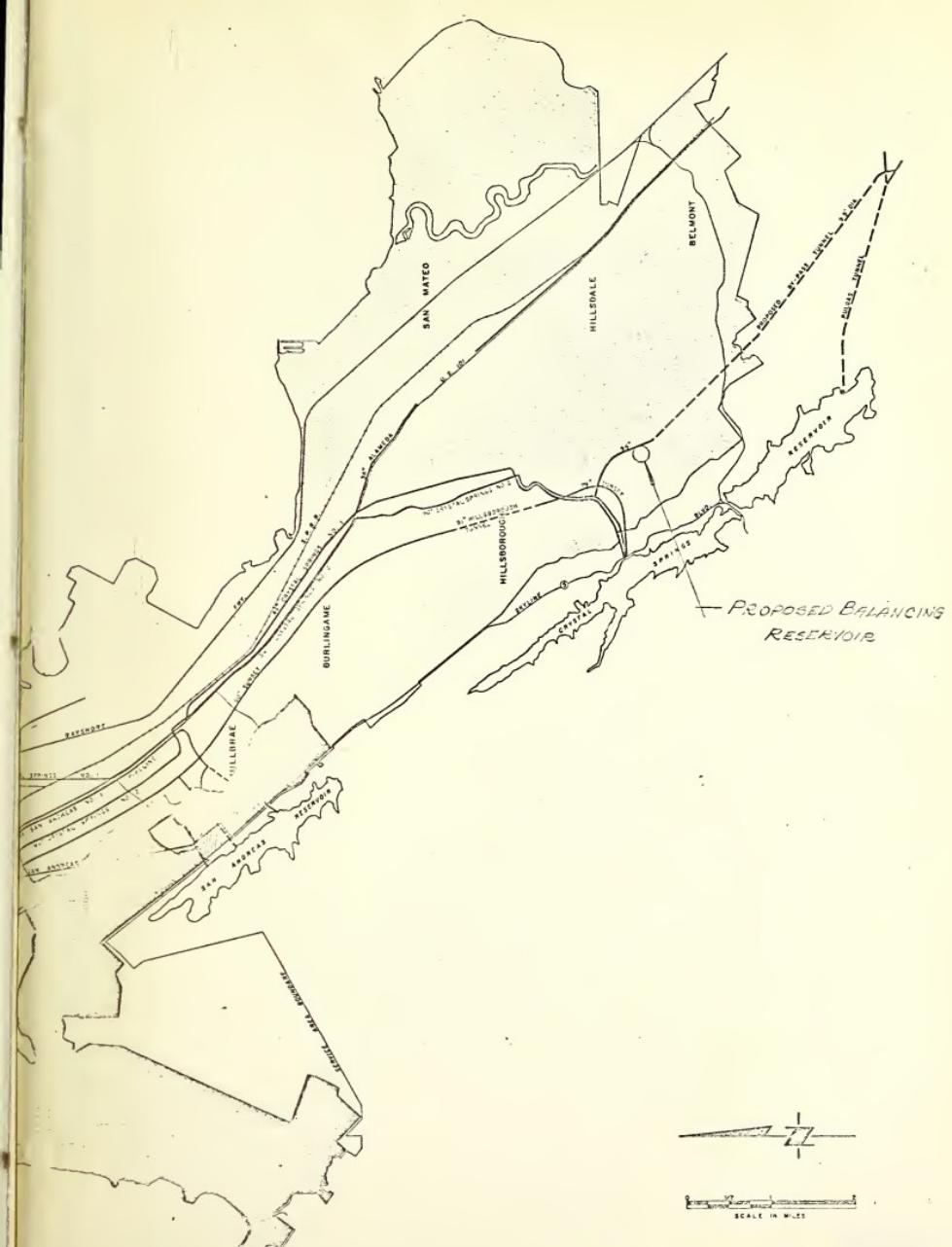


Fig. 2-4. Peninsula Division Pipelines and Service Area









